



Department for
Business, Energy
& Industrial Strategy

Energy Company Obligation

ECO4: 2022 - 2026

Closing date: 3 September 2021 (extended from 31 August)

July 2021



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Any enquiries regarding this publication should be sent to us at the following address, including 'ECO4 consultation' in your email subject: beisecoteam@beis.gov.uk

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General information

Purpose of this consultation

This document sets out proposals for the Energy Company Obligation (ECO).

ECO is a programme to deliver energy efficiency measures in homes across Great Britain. This current ECO scheme is due to end on 31 March 2022. This consultation covers the future ECO for the period 1 April 2022 to 31 March 2026.

A draft impact assessment is published alongside this consultation to support the policy proposals.

We would like to hear from a wide range of stakeholders, including consumer representatives, energy suppliers and those with an interest in energy efficiency and fuel poverty policies.

Consultation details

Issued: 20 July 2021

Respond by: 3 September 2021 (extended from 31 August)

Enquiries to:

Email: beisecoteam@beis.gov.uk

Consultation reference: ECO4 consultation

Do not submit consultation responses to this email address. Any responses submitted via this email address will not be considered.

Audiences:

Stakeholders with an interest in domestic energy efficiency and heating in Great Britain and domestic energy suppliers.

Territorial extent:

This consultation is for England, Wales and Scotland.

How to respond

Please respond directly to the questions posed, though additional comments and evidence would also be welcome.

Your response should be submitted online using the dedicated online portal:

Respond online at: <https://beisgovuk.citizenspace.com/home-local-energy/eco4>

Please do not send responses to this consultation by post to the Department, as we may not have access to them.

When responding, please state whether you are responding as an individual or representing the views of an organisation.

Confidentiality and data protection

Information you provide in response to this consultation, including personal information, may be disclosed in accordance with UK legislation (the Freedom of Information Act 2000, the Data Protection Act 2018 and the Environmental Information Regulations 2004).

If you want the information that you provide to be treated as confidential please tell us, but be aware that we cannot guarantee confidentiality in all circumstances. An automatic confidentiality disclaimer generated by your IT system will not be regarded by us as a confidentiality request.

We will process your personal data in accordance with all applicable data protection laws. See our [privacy policy](#).

We will summarise all responses and publish this summary on [GOV.UK](#). The summary will include a list of names or organisations that responded, but not people's personal names, addresses or other contact details.

Quality assurance

This consultation has been carried out in accordance with the government's [consultation principles](#).

If you have any complaints about the way this consultation has been conducted, please email: beis.bru@beis.gov.uk.

Foreword

Achieving net zero is going to be an unprecedented opportunity and challenge for our country which will generate green growth, skilled jobs and a better way of life whilst helping to safeguard our planet.

The Energy Company Obligation (ECO) is an established policy which has already contributed to making homes warmer and their emissions lower. Since 2013, over 3.1 million measures have been installed in over 2.3 million homes under the scheme. In our Sustainable Warmth Strategy, we committed to extending ECO from 2022 to 2026 and expanding its value to £1bn per annum. This consultation sets out our proposals for that four-year extension.

Part of our commitment to net zero is that the transition of our economy must be a fair one. ECO is part of that commitment, and it will continue to focus on low income and vulnerable households who cannot upgrade their homes and heating systems. Beyond that, we need to increase our focus on the least efficient homes, and we need to make larger improvements to them. The crux of this consultation is about how we do that.

ECO will work alongside other existing and new policies to ensure that low income households in whichever tenure with whatever heating system are able to access help through Government schemes. This will help us meet our commitments in the Sustainable Warmth Strategy, but, more importantly, transform the lives of people living in energy inefficient homes which they cannot afford to heat.

Due to its focus on low income households in the least energy efficient housing stock, ECO will also contribute to our levelling up agenda. Local installers will be helping the economy build back better with the benefits spread across Great Britain. A four-year scheme, longer than ever before, will provide the supply chain with the certainty and confidence to invest in new products and in people.

ECO has been a big success, hence our continuation and expansion of it. So, whilst the fundamentals will remain the same, we need to adapt it to our more ambitious climate agenda and ensure that those who need it most are able to benefit from living in warmer, healthier homes.

Executive Summary

This document sets out proposals for the next Energy Company Obligation (ECO), which will run from April 2022 until March 2026 at an average cost of £1 billion per year (2021 prices).

The main objective of the scheme is to improve the least energy efficient housing stock occupied by low income and vulnerable households, thereby making progress towards our statutory target of improving as many fuel poor homes as reasonably practicable to EPC band C by 2030, with an interim milestone of band D by 2025.

Improving those homes will reduce carbon emissions, contributing to a fair transition to net zero. As a result of where and how measures under ECO are delivered, it will also be a part of the levelling up agenda and help local businesses be part of building back better.

Whilst maintaining most of the fundamentals of the current scheme, the proposals in this document also reflect learning from its previous iterations and the principles and objectives set out in our Sustainable Warmth Strategy.

We are proposing that ECO remains an obligation on energy suppliers with a continued focus on low income and vulnerable households. Therefore, with some changes from the current scheme, we propose to use means tested benefits as a proxy for low income. To help identify households not on benefits but in fuel poverty, we will expand and reform local authority flexibility so that suppliers can deliver up to 50% of their obligation via that route. However, we propose to bring in new rules and incentives to maximise the number of fuel poor homes targeted.

To complement the targeting of low income households, we propose to increase the focus on the least energy efficient homes and require a more complete upgrade of those homes. We propose a minimum delivery requirement of improving band F or G homes to reach at least band D, and band D or E homes to at least a band C. This approach will increase the number of and savings from the measures installed per home and reduce the need for future upgrades to those properties. Furthermore, we propose a minimum number of band E, F and G homes to be upgraded, so that the least efficient homes are not left behind.

To underpin the shift to a more multi-measure approach, and to provide greater support to the worse performing homes, we propose to introduce a new scoring methodology based on the difference in bill expenditure between the starting and finishing energy efficiency rating, with further regard given to the property's floor area. Greater support will also be provided to "hard-to-treat" homes through a new score uplift.

ECO4 will increasingly focus support on owner occupied households, aligning with other policies to decarbonise the housing stock. For the private rented sector, we propose that low income tenants will qualify for support, subject to any landlord cost caps agreed under the updated Minimum Energy Efficiency Standards (MEES regulations). Social housing in bands E, F and G will also be supported for insulation, first-time central heating measures and smart heating controls. ECO4 has been designed to be available across England, Scotland and Wales. In England, the Home Upgrade Grant will support upgrades to the worst performing off-gas grid homes.

We propose to support measures that align the scheme with our net zero targets whilst being consistent with supporting low income households. Most notably, we intend to limit support for new and replacement gas heating systems and remove support for new LPG and oil heating systems.

We expect many of the least energy efficient homes will require solid wall insulation to meet the minimum requirement, however, to provide certainty and support to the supply chain, we are proposing to have a solid wall insulation target of 22,000 per year.

We propose to continue to support new products and installation methods via the Innovation Measure route but with reforms to improve the incentives for suppliers who are early adopters and for products that provide a significant improvement. We also propose to provide incentives for in-situ performance measurement of installations.

Under the current ECO, energy suppliers with more than 150,000 domestic customer accounts are obligated, subject to supply volumes. In the longer-term, we are committed to removing obligation thresholds. We propose to introduce a buy-out mechanism enabling the removal of thresholds, however that will not be available for the start of the scheme. Therefore, we propose that the obligation threshold remains at 150,000 customer accounts until a buy-out mechanism is introduced and thresholds are removed as part of the wider retail market reforms.

In the meantime, for the start of ECO4 we intend to reduce the supplier allowance by 50%, for both gas and electricity supply, resulting in obligations calculated on lower supply volumes.

The Scotland Act 2016 provides Scottish Ministers with powers to design and implement ECO in Scotland, including setting rules about the types of households and measures eligible. Should Scottish Ministers decide to use their powers during the period of ECO4, we propose to apportion annual bill savings targets based on gas and electricity supply volumes in Scotland and the rest of Great Britain. We would also work closely with the Scottish Government to ensure that the design of both schemes was consistent with the overall funding envelope and objectives.

Introduction

1. The Energy Company Obligation (ECO) currently requires energy suppliers to deliver notional lifetime bill savings by installing energy efficiency and heating measures to homes in Great Britain. These measures help households to keep their homes warmer and reduce their energy bills and carbon emissions.
2. ECO was launched in 2013 and has delivered over 3.2 million measures in over 2.3 million homes.
3. This consultation sets out the Government's proposals for a four-year, scheme worth £1 billion a year from April 2022 to March 2026 (ECO4).

Our objectives

4. Government is committed to ensuring low income households have access to sustainable, low carbon warmth as part of a fair transition to net zero. A home should be warm, comfortable and support the health of its occupants. The Government is clear that it is unacceptable that some people living on a low income should have to do so in properties that cannot be kept warm at reasonable cost. Living in a cold home can result in a range of negative health outcomes and exacerbate respiratory conditions. It is also associated with poor educational attainment, which may have knock on implications for social mobility and life chances.
5. ECO reduces heating costs for people whose homes it improves, thereby reducing fuel poverty. ECO4 will align with the new Sustainable Warmth Strategy for England, and the Low Income and Low Energy Efficiency (LILEE) metric. ECO4 will provide greater support to the least energy efficient homes, making greater progress against our fuel poverty targets.
6. Alongside, we are providing help to householders most in need through proposals for a reformed Warm Home Discount, which would provide £150 off energy bills to around three million low income and fuel poor households each winter. The Energy Price Cap (Default Tariff Cap) provides protection for consumers on standard variable tariffs and default tariffs. Low income households can also receive energy efficiency and low carbon heating measures under the Local Authority Delivery scheme and Home Upgrade Grant in England until 2023.
7. A four-year ECO will support economic activity right across Great Britain, helping to overcome COVID-19 by rebuilding our economy, levelling up deprived regions

and supporting the Green Industrial Revolution, creating green growth and long-term stability.

8. The Energy White Paper¹ outlined how consumer experience is likely to evolve as more smart technologies create greater choice in energy use and support in managing bills, including ensuring households have affordable energy. A major push on improving energy efficiency and the fabric of the least energy efficient homes over the longer term will make them less expensive to heat, reducing energy demand, saving money on household bills and making them more suitable for low carbon heat.
9. ECO4 will continue as a supplier obligation. Supplier obligations have been in place for around a quarter of a century and have cost-effectively improved the energy efficiency of millions of homes across Great Britain.
10. The Government has continued to analyse how ECO and other policies are contributing to the alleviation of fuel poverty, and how it could be improved to help us better support households on the lowest incomes. An evaluation of ECO began during 2019/20, and the findings of the subsequent reports² are published alongside this consultation.

Fuel poverty in England, Scotland, and Wales

11. Fuel Poverty is a devolved matter, with separate indicators, targets and strategies adopted by England, Scotland and Wales. Although fuel poverty is measured differently in all three nations, the characteristics of households considered to be in fuel poverty across Great Britain are similar.
12. Scotland and Wales have adopted different versions of the 10% fuel poverty indicator, whereby a household is considered fuel poor if they need to spend more than 10% of their net income on energy. The Scottish Parliament has approved a new definition of fuel poverty in Scotland as set out in 'The Fuel Poverty (Target, Definition and Strategy) (Scotland) Act 2019³. The Scottish definitions gives greater emphasis to other factors such as income and fuel prices, whereas LILEE is driven by income and the energy efficiency of a home.

¹ <https://www.gov.uk/government/publications/energy-white-paper-powering-our-net-zero-future>.

² <https://www.gov.uk/government/publications/eco-evaluation-wave-1-interim-report-2020>

³ https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/819606/fuel-poverty-strategy-england-consultation.pdf, see page 20.

13. We have worked closely with the Scottish and Welsh Governments to ensure that the proposals reflect the needs of fuel poor households across Great Britain.

Scheme administrator

14. Under these proposals, the Office of Gas and Electricity Markets (Ofgem) will continue to be the scheme administrator for the 2022-26 period, providing continuity and expertise.

Chapter 1: Suppliers

This chapter outlines our proposals for obligation thresholds; the supplier allowance approach; suppliers failing and the loss of supplier obligation; the buy-out mechanism; carry over; carry under and the early delivery of measures during a gap between schemes.

Supplier obligation threshold

15. The Government has a vision for a fair and competitive energy market where established suppliers and small new entrants compete to make better offers to consumers.
16. Since the start of ECO, there has been a large increase in the number of suppliers in the market and therefore those obligated under ECO. The number of obligated suppliers has also increased due to the reduction in the participation thresholds from 250,000 to 150,000 domestic customer accounts.
17. Shortly after the commencement of ECO3 in December 2018, the estimated market coverage of obligated suppliers was 94%. The estimated market share of ECO obligated suppliers is 98.5% as of 31 December 2020⁴.
18. Obligated suppliers incur the costs of meeting their scheme obligations, however, they recoup these costs from their customers' energy bills. While a threshold remains, scheme costs are therefore not distributed equitably amongst suppliers. All else being equal, this may create market distortions by enabling non-obligated suppliers to offer lower priced energy tariffs compared to obligated suppliers. Customers of non-obligated suppliers can continue to receive ECO measures, whilst not being required to contribute to the scheme costs⁵.

Removing thresholds

19. Government is committed to the removal of thresholds, to overcome any potential market distortion between obligated and non-obligated suppliers. The Energy White Paper⁶ set out our commitment to consult on how supplier thresholds can be removed, and to do so by enabling small suppliers to participate in ECO without incurring disproportionate costs. This could be achieved via a buy-out

⁴ Data provided by Ofgem. Both estimates are based on domestic customer numbers.

⁵ ECO is an obligation on suppliers to deliver energy efficiency measures to eligible low income households, regardless of who their energy supplier is.

⁶ <https://www.gov.uk/government/publications/energy-white-paper-powering-our-net-zero-future> (page 35).

mechanism, which would allow smaller suppliers to incur a proportionate cost without having to deliver energy efficiency measures. We are also proposing an exemption for small suppliers to mitigate against the risk of disproportionate administration costs once the buy-out is introduced (see below).

20. Removing thresholds would not increase the total obligation under ECO, instead spreading it across more suppliers. Based on the most recently available supplier customer numbers, removing thresholds would more than double⁷ the number of obligated suppliers. We propose to remove thresholds, once a buy-out can be implemented under ECO, which is, subject to securing primary powers. A further consultation prior to the implementation of the buy-out mechanism would follow.
21. Smaller suppliers with small obligations are more likely to trade their obligations or pay a single delivery partner to minimise their administration costs and meet their obligations. If thresholds were reduced further, smaller suppliers would be faced with greater cost disparity when meeting their obligations, as they would be less able to spread their delivery risks amongst several delivery partners. They would also have proportionately higher set up and fixed costs and a smaller customer base to recoup these costs from.
22. Table 1 below indicates the cost differences faced by suppliers with different obligation sizes, using data that suppliers have voluntarily provided to Ofgem. Delivery prices increased for all suppliers during phase 2 and 3 of the current scheme, but administration costs reduced overall, although overall costs were highest for the larger suppliers. When thresholds were reduced to 150,000 customer accounts (phase 3), resulting in new suppliers becoming obligated, the delivery and combined costs were highest for the smallest suppliers at 28p.

⁷ Data provided by Ofgem.

Table 1: Obligation costs for suppliers with different obligation sizes

	Phase 1 Threshold at 250k customer accounts			Phase 2 Threshold at 200k customer accounts			Phase 3 Threshold at 150k customer accounts		
Average costs per lifetime bill savings £/£									
Suppliers' obligation percentage	Delivery	Administration	Combined	Delivery	Administration	Combined	Delivery	Administration	Combined
10% or more	£0.16	£0.05	£0.21	£0.20	£0.02	£0.22	£0.24	£0.02	£0.26
*5% - 10%	N/A	N/A	N/A	N/A	N/A	N/A	£0.25	£0.01	£0.26
1% - 5%	£0.16	£0.03	£0.18	£0.21	£0.01	£0.22	£0.23	£0.01	£0.24
under 1%	£0.14	£0.02	£0.16	£0.19	£0.01	£0.20	£0.27	**£0.00	£0.28

* No suppliers of that size obligated during phase 1 and 2. **Small numbers.

Reducing thresholds

23. Other more immediately available options do not satisfactorily mitigate market distortions. For example, based on the latest data, reducing thresholds to 50,000 customer accounts would obligate another 4 suppliers and increase the market share of obligated suppliers by 1.03 percentage points, to 99.54%⁸.

24. A temporary reduction in thresholds, followed by a buy-out mechanism, could be disruptive and disproportionately impact the newer small suppliers' ability to deliver. A buy-out mechanism would require new powers and further consultation; this is not possible ahead of the start of ECO4 but could be introduced during its four-year operation.

25. Table 2 below illustrates the impact of ECO costs per customer in various scenarios. Our analysis shows that a reduction of thresholds to 50,000 customer accounts would be likely to result in smaller suppliers having higher costs per customer. Furthermore, there could still be around 27 non-obligated suppliers with more than zero customers in the market who may have a greater ability to price below what the rest of the market can sustainably afford. We do not think that a reduction would have a significant impact on levelling the playing field and solving the market distortion.

26. We recognise that maintaining the current threshold for ECO is not consistent with the initial proposed change to 50,000 under the Warm Home Discount. However, we believe that consistency between schemes is less important than

⁸ Data provided by Ofgem – based on estimated customer accounts and qualifying supply thresholds.

their individual impacts. Furthermore, we intend to align the schemes more closely beyond 2023.

Table 2⁹: Comparing supplier obligation size and ECO cost per customer

	Scenario 1 (current scheme)	Scenario 2	Scenario 3	Scenario 4	Scenario 5
Supplier obligation (%)	Average cost per customer (£)				
10 or more	£11.26	£11.05	£11.12	£11.03	£10.95
3 - 10	£11.71	£11.72	£11.72	£11.70	£11.68
0.5 - 3	£8.51	£8.80	£8.71	£8.78	£8.86
under 0.5	£8.35	£10.44	£9.76	£10.42	£11.07

- The cost per customer does not necessarily translate to actual costs passed onto each customer. Modelled on ECO3 figures and scenarios illustrate impact of phase 4 of ECO3.
- **Scenario 1:** CN threshold at 150,000, supply volume thresholds 300GWh (elec) and 700GWh (Gas)
- **Scenario 2:** CN threshold at 150,000, supply volume thresholds 150GWh (elec) and 350GWh (Gas)
- **Scenario 3:** CN threshold at 100,000, supply volume thresholds 200GWh (elec) and c.467GWh (Gas)
- **Scenario 4:** CN threshold at 75,000, supply volume thresholds 150GWh (elec) and 350GWh (Gas)
- **Scenario 5:** CN threshold at 50,000, supply volume thresholds 100GWh (elec) and c.234GWh (Gas)

27. The scenarios modelled use the average combined administrative and delivery cost for phases 1 to 3 of ECO3 but also use the customer number (CN) and supply volume data collected on 31 December 2020.

Supplier allowance

28. The supplier allowance approach was introduced into phase 2 of ECO3 and replaced the taper mechanism. Every obligated supplier currently has the same

⁹ Combined administrative and delivery cost data has been used to calculate each supplier's £ per £ of lifetime bill savings and applied to each supplier's phase 4 obligation amount to estimate the cost to deliver their total phase 4 obligation. Customer number and supply volume data collected on 31 December 2020.

allowance, equivalent to the supply volume obligation threshold (700 gigawatt hours (GWh) of gas and 350 GWh of electricity). A supplier's obligation is calculated per unit of supply above the allowance. This was introduced to prevent newly obligated suppliers immediately having a large obligation.

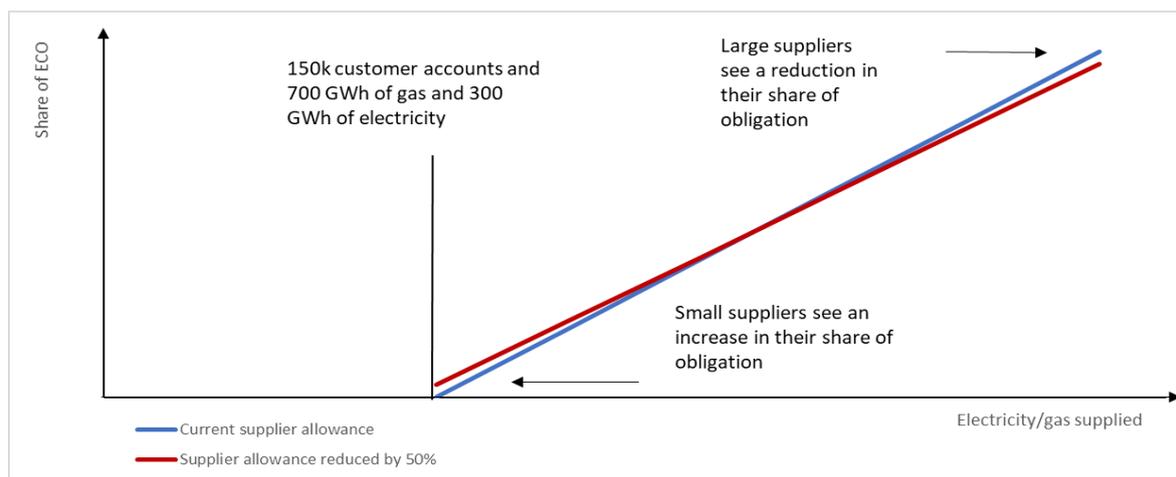
29. Reducing both the customer number and supply volume thresholds would result in more small suppliers becoming obligated, larger suppliers having a slightly smaller obligation, and existing smaller suppliers having a larger obligation. For example, if the customer accounts threshold were reduced to 50,000 (and the supply volume reduced proportionally), we could see some smaller suppliers' obligations increase by up to 290% compared with their ECO3 Phase 4 obligation¹⁰.
30. Retaining the customer number and supply volume threshold at current levels but reducing the supplier allowance to 150,000 GWh electricity and 350,00 GWh gas supply volumes (50% of the supply threshold) could also result in existing small suppliers' obligations increasing similarly to the scenario mentioned above.
31. Analysis shows that the cost per customer would increase for the smaller suppliers and reduce for the largest suppliers. However, the average cost per customer for the smallest suppliers (with <0.5% of obligation target) would still be below the average cost for suppliers with an obligation above 3%. When the buy-out is introduced, the supplier allowance would not be applicable, so reducing it now is a step towards that goal.
32. Table 3 and Figure 1 illustrate the impact of the share of the obligation on suppliers when the supplier allowance is reduced. Under this approach, new suppliers would not become obligated unless they reach the existing thresholds, so the risk of disproportionate set up costs would not apply. Therefore, we propose to reduce the supplier allowance by 50% from the start of ECO4, while maintaining the customer account threshold.

¹⁰ Data provided by Ofgem.

Table 3: Illustrative example of the change in the share of obligation on different suppliers, when the supplier allowance is reduced from 700 GWh to 350 GWh

Illustrative suppliers (all with 150k+ customers)	Gas supply GWh	Allowance set at 700 GWh		Allowance set at 350 GWh	
		Supply volume obligated on	Share of obligation	Supply volume obligated on	Share of obligation
Supplier 1	10,000	9,300	99.80%	9,650	96.30%
Supplier 2	720	20	0.20%	370	3.70%

Figure 1: Effect of maintaining the customer numbers and reducing the supplier allowance



33. Reducing customer number thresholds, while retaining the existing supply volume threshold and supplier allowance, is more likely to result in the smallest suppliers having a very small obligation because they are likely to deliver very small supply volumes. For example, a supplier with 100,000 customer accounts would have an obligation requiring it to upgrade less than 200 homes over the four-year obligation.
34. Due to the fluctuations in the supply volumes delivered by small suppliers, some may reach the obligation threshold due to customer numbers, but they may not have an obligation to deliver because their supply volumes are below the supply thresholds.

35. We remain committed to removing thresholds and will consult on the buy-out mechanism when primary powers are available, subject to Parliamentary time.
36. More broadly, BEIS recently published a call for evidence on energy consumer funding, fairness and affordability which considers the question of how supplier obligations should be funded. In this consultation we are not proposing any specific changes to the funding model or obligation-setting methodology. However, we would welcome your views on how costs under the current model are passed on to consumers, and whether you would support approaches to shift more of scheme costs onto gas bills.
37. Whilst we are not explicitly proposing to change the balance between gas and electricity supply in setting the obligation, ECO4 will have a greater focus on improving homes on the gas grid, especially in England. Therefore, we encourage suppliers to reflect this by recouping a greater proportion of their costs through gas bills. We will also request that suppliers voluntarily report how they pass on their costs.

Consultation Question

1.	Do you agree with removing the supplier obligation threshold when a buy-out mechanism is introduced and retaining the current thresholds, for when a supplier becomes obligated, in the meantime?
2.	Do you agree with the proposal to reduce the current supplier allowance approach at the start of ECO4, before a buy-out mechanism could be introduced?
3.	How feasible would it be for suppliers to pass on a greater share of obligation costs onto gas prices rather than electricity during ECO4 or beyond?
4.	How feasible would it be for suppliers to recover costs of obligation exclusively from gas customers during ECO4 or beyond?

Suppliers failing and loss of supplier obligation

38. The energy supply market sees new entrants as well as exits. Where a supplier fails and a trade sale is not feasible, Ofgem may appoint a new supplier for the affected customers to ensure that they do not experience disruption to their gas/electricity supply.
39. Currently, where an obligated supplier has not fulfilled its ECO obligation before it ceases to trade and its licence is revoked, that delivery will remain unmet. ECO obligation targets are calculated annually based on existing licenced suppliers

before each phase of the obligation. There is no mechanism to allow a failing supplier's remaining obligation to be discharged or re-distributed amongst other obligated suppliers during the phases the exiting supplier was obligated.

40. Government needs to balance the risk of losing obligation delivery with the impact of redistributing the obligations amongst remaining obligated suppliers. Moving obligations to other suppliers could increase the risks of them becoming non-compliant and increasing their administrative and delivery costs, potentially having a knock-on effect on the wider retail market.
41. Since 2017, 32 suppliers have exited the market, of which 10 were obligated under ECO¹¹. Whilst this may not be representative of what happens in future, it is an indication of the risks to ECO of reducing the obligation threshold; suppliers which go out of business are highly unlikely to have met their share of the obligation up to that point.
42. During ECO3 we have seen seven obligated suppliers exit the market, with only two having fully delivered their obligation. This has resulted in approximately £0.050bn¹² lifetime bill savings (LBS) of the total ECO3 obligation target (£8.253bn¹³ in bill savings) being lost. The proportion of the lost obligation is approximately 0.60%¹⁴ of the total. There is a greater risk of obligations being undelivered if even smaller suppliers become obligated, unless they could participate under a buy-out mechanism.
43. When thresholds are removed, the small suppliers, for example those with fewer than 150,000 customer accounts, would have proportionate obligations, so even if some of these suppliers exit the market without meeting them, the overall impact on the ECO obligation target would also be small.
44. Where larger suppliers fail, the Special Administration Regime applies whereby the supplier remains a licensed entity and must continue to fulfil the conditions attached to its licences, including fulfilling scheme obligations. It is highly unlikely, therefore, that large suppliers would exit the market without meeting ECO obligation targets. The potential set up and administration costs around mitigating the risk of unmet obligations is likely to be disproportionate, so we propose maintaining the existing practice.

¹¹ Data provided by Ofgem.

¹² <https://www.ofgem.gov.uk/environmental-programmes/eco/contacts-guidance-and-resources/eco-public-reports-and-data/energycompany>.

¹³ <https://www.legislation.gov.uk/ukdsi/2018/9780111171769/article/4>.

¹⁴ <https://www.ofgem.gov.uk/environmental-programmes/eco/contacts-guidance-and-resources/eco-public-reports-and-data/energycompany>.

Consultation Question

- | | |
|----|---|
| 5. | Do you agree with our proposal of not introducing the new mechanism to protect the ECO target under ECO4 when a supplier ceases to trade, and its obligation target is not met? |
|----|---|

Buy-out mechanism

45. A buy-out mechanism could be introduced to allow small suppliers to pay into a buy-out 'pot' to meet their obligation, at a price that would be on a par with costs of larger suppliers delivering their obligations by upgrading the energy efficiency of homes.
46. The introduction of a buy-out mechanism relies on new primary powers and Parliamentary time to raise revenue under ECO. We will not have a buy-out mechanism in place when ECO4 begins, but stakeholder views on how supplier obligations could be met via a buy-out mechanism would help us prepare for those primary powers. We intend to consult in the future on the exact design of this mechanism, including how the buy-out is administered, where the fund is held and how it is spent. We are proposing that suppliers with a customer base below 150,000 (the current threshold) have the option of buying out 100% of their obligation. We also propose giving the small suppliers the choice of delivering their obligation in the same way as other suppliers.
47. We have also considered whether the buy-out should be expanded to suppliers with a customer base of above 150,000. There is merit in allowing all other suppliers the option to have access to such a mechanism, to allow delivery flexibility and enable suppliers to manage potential unforeseen delivery risks during a scheme. We propose that other suppliers with a customer base above 150,000 have the option to buy out a capped proportion of their obligation under a sliding scale approach, with the largest suppliers having the lowest buy-out allowance as a percentage of their obligation. This would maintain delivery certainty for the existing supply chain. The buy-out would also be used to deliver energy efficiency improvement projects, although the details would be subject to a further consultation.
48. Suppliers with a small customer base, for example 1,000 customer accounts or below, are likely to have small supply volumes. We currently do not know the average supply volumes for small suppliers, but Ofgem audits suppliers with approximately 135,000 or more customer accounts. On that basis, assuming the average supply would be the same regardless of the size of the supplier, the

average supply volume for a supplier with 1,000 customer accounts would be 13 GWh gas and 4 GWh electricity. The obligation for a supplier of this size would be 0.004% or roughly £40,000 worth of buy-out a year. To balance the burden of administering the scheme and additional costs to companies selling small supply volumes, we believe one option might be to set a customer account threshold of 1,000. Suppliers with fewer than 1,000 accounts would not be obligated under ECO, regardless of their supply volumes.

49. For suppliers, for example those below 10,000 customer accounts, there appear to be wide fluctuations in supply volumes relative to customer accounts. When considering an obligation threshold, it might therefore be sensible to consider both a customer account threshold and a supply volume threshold. A buy-out based on only supply volumes could result in disproportionate costs to the customer if high supply volumes were delivered to a small number of customers. Conversely, a buy-out based on customer accounts only could result in disproportionate administration costs, if the supply volumes were relatively small.
50. Given the relatively wide variation in supply volume and customer numbers for small suppliers, the disproportionate administrative burden could in fact apply to suppliers with above 1,000 customer accounts. Using Ofgem's estimated average supply volume per customer, suppliers with around 3,000 customer accounts would deliver an average 40 GWh of gas and 11 GWh of electricity. With these supply volumes the buy-out amount would be roughly £120,000 a year.
51. Given the above, we are therefore proposing as a second option to introduce a higher threshold of 5,000 customer accounts accompanied by an equivalent gas/electricity supply volume threshold, both of which would have to be exceeded for a supplier to be obligated. Suppliers with at least 5,000 customer accounts would still have a very small contribution to the buy-out, totalling roughly £200,000 a year per supplier based upon the average supply per customer. It is possible suppliers with this many customers would have even lower supply volumes, exacerbating the disproportionate administration costs and the buy-out needed could be significantly smaller.

Table 4: Potential buy-out cap according to supplier size using a sliding scale approach

Customer base threshold	Supplier buy-out allowance option
There are 2 options for the smallest suppliers:	
Option 1 – Suppliers with up to 1,000 customer accounts are not obligated, regardless of supply volumes	N/A
Option 2 – Suppliers with up to 5,000 customer accounts and that supply up to 66 GWh gas or 18 GWh electricity, are not obligated.	N/A
Suppliers that exceed the relevant thresholds in Options 1 or 2; and suppliers with up to 150,000 customer accounts	Up to 100%
150,001 - 250,000	Up to 25%
250,001 - 500,000	Up to 5%
500,001	Up to 2%

Setting the buy-out price

52. To enable small suppliers to deliver their obligation at a cost on a par with larger suppliers, the buy-out price should reflect the market price. As the buy-out mechanism would not be introduced at the start of the scheme, the administration and delivery costs reported by suppliers during ECO4 would be representative of overall ECO4 supplier costs.

53. We propose a buy-out price set on an annual basis, prior to the obligation phase, using the quarterly published prices reported by suppliers from the previous phase. This would ensure that the buy-out price set is reflective of the most recent delivery costs. The more detailed method of using these prices would be subject to a further consultation.

54. Impact Assessment (IA) prices tend to reflect the modelled average cost of installation over the entire obligation and are not adjusted annually. We could use

the impact assessment (IA) costs, but they are likely to be less reflective of delivery costs as those reported by suppliers.

55. We propose offering the option to buy-out during a ‘decision window’ between the confirmation of obligations by Ofgem and before the beginning of the next obligation phase. Suppliers wanting to use the buy-out mechanism would declare their intention to buy-out during this window and once the declaration is committed, there would be no option to choose to deliver the obligation by delivering energy efficiency measures. Likewise, any supplier that has not declared their buy-out decision during the decision window would not be able to use it at a subsequent point.
56. Suppliers would also not be able to buy out previous obligation phases during a decision window. For example, a supplier would not be able to buy out their obligation for phase 1 during the phase 2 obligation decision window.
57. This proposal, alongside the proposal to set the buy-out prices annually, would make the mechanism simpler to administer, provide more certainty for suppliers and more certainty of the size of the buy-out pot.

Consultation Question

6.	Do you agree with the proposal to (a) introduce a buy-out mechanism, to enable smaller suppliers to participate under ECO without disproportionate costs to them (subject to primary legislation); and (b) do you agree that the use of buy-out should be optional for all suppliers?
7.	Do you agree that the buy-out pot should be used to deliver energy efficiency measures?
8.	Do you agree that all suppliers should be able to use the buy-out mechanism using a sliding scale approach?
9.	If a sliding scale was used, do you agree that the proposed potential buy-out caps above are set at the right level?
10.	Do you think that very small suppliers with; (a) 1,000 customer accounts or below, regardless of their supply volumes, should not be obligated (option 1 in table 4); OR (b) do you think suppliers with less than 5,000 customer accounts, with supply volumes of 66GWh gas and 18 GWh electricity should not be obligated (Option 2 in table 4)?
11.	Do you agree that (a) an approach using published prices reported by suppliers on ECO delivery and administration costs would be appropriate to set the buy-out price on an annual basis ahead of the buy-out ‘window’? (b) Please suggest any alternative approaches.

12.	Do you agree that suppliers should decide on whether to buy-out or not during a 'decision window' which is prior to the start of the next obligation phase?
13.	Do you agree that suppliers can only choose to buy-out their next obligation phase?

Carry-over

58. ECO obligated suppliers normally aim to over-deliver against their obligation to manage the risk of measure rejection and non-compliance. Carry-over, which has existed since ECO began in 2013, enables surplus savings to count towards a supplier's next obligation, subject to adjustments for policy changes. As well as managing suppliers' compliance risks, this practice can be used to reduce uncertainty for the supply chain. Carry-over therefore aids a smooth transition between schemes. Although unlimited carry-over was permitted for the Affordable Warmth Obligation in the previous transition from ECO2 to ECO3, the changes from ECO3 to ECO4 will be greater.

59. We therefore propose that suppliers should be allowed to carry-over no more than 10% of their ECO3 obligation with the exception of SWAM measures, oil and LPG fuelled heating systems, which would not be permitted at all. The 10% cap provides a balance between allowing flexibility and maximising the impact of the reformed scheme which better aligns with our objectives.

60. Our analysis of previous measure rejection rates indicates that a 10% carry-over limit would be sufficient for suppliers to mitigate against measures rejected during the scheme closedown. We also propose that carry-over would count towards any relevant minimums or maximums set out in ECO4. Measures carried over to ECO4 would not have to meet the ECO4 minimum requirements (MRs) set out in paragraph 80 and would not be subject to any score deflation. Any measures carried over would also not be eligible to count towards any further measure packages subsequently installed at the same property in ECO4. Any uplifts that have not been continued into ECO4 would not be applicable to any carry-over savings (such as the LA Flex F&G non-PRS uplift).

61. We have explored the option of converting the ECO3 deemed scores into ECO4 scores. Due to the proposed changes in the scoring approach for ECO4 (see Chapter 4), this option would necessitate the application of additional inputs to all existing ECO3 deemed scores, thereby increasing the complexity of implementation. With the current ECO3 scoring, it would make it especially

difficult to make accurate estimations for the starting and ending SAP¹⁵ bands for each measure in the current ECO3 deemed scores.

62. Instead, we propose that ECO3 bill savings are converted into ECO4 bill savings based on the estimated cost of a supplier delivering those ECO3 savings. The benefit of this option is that it considers the changes in delivery and scoring of the future scheme.

63. Under this proposed approach, a supplier's carried over lifetime bill savings would be multiplied by the average cost of ECO3 delivery. This would provide an estimate of the amount of money spent by a supplier on delivering the surplus obligation.

64. This cost would then be used to determine what the ECO4 bill savings associated with that carry-over should be, by dividing the ECO3 expected cost by the ECO4 Impact Assessment delivery cost per pound of annual bill savings.

Cost of supplier for delivering ECO3 carry – over (the lifetime bill savings achieved in their total ECO3 measures carried over × the average cost per £ of lifetime bill savings under ECO3)

ECO4 IA costs per £ of annual bill savings

65. The average cost per £ of lifetime bill savings under ECO3 could be taken from the ECO3 Impact Assessment, the published energy efficiency statistics or based on the actual spend per supplier.

66. This cost could therefore be set at 31p per £ of lifetime bill savings (LBS) taken from the 'ECO3: Improving consumer protection consultation Impact Assessment'¹⁶. This is based on the estimated average cost per £ of LBS for Phase 4 of ECO3 (2021/22)¹⁷. This option is preferred to basing the cost on actual spend per supplier since that could reward suppliers that have higher costs, rather than those who are more efficient in their delivery. In addition, the IA is what the majority of suppliers use to inform ECO delivery prices.

67. Basing this cost on the published energy efficiency statistics¹⁸ would provide real time average delivery costs of all suppliers in the final phase of ECO3. However,

¹⁵ SAP is the methodology used by the Government to assess and compare the energy and environmental performance of dwellings, with 'bands' used to grade energy efficiency performance from most efficient (A) down to least efficient (G).

¹⁶https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/842280/ECO3_Improving_Consumer_Protection_Final_Stage_Impact_Assessment.pdf

¹⁷ This cost was based on the original modelling in the ECO3 final impact assessment as adjusted for actual delivery costs for December 2018 to March 2019 and accounting for the impact on costs of PAS 2035:2019 technical requirements.

¹⁸ <https://www.gov.uk/government/collections/household-energy-efficiency-national-statistics>

it should be noted that these costs are published with a four-month lag, and subject to change until the final values for phase 4 of ECO3 are published, which would be during ECO4. We welcome views from stakeholders as to which is the most suitable cost to be used for carry-over.

Consultation Question

14.	Do you agree with our proposal to allow up to 10% ECO3 delivery to be carried over into the ECO4 scheme (with the exception of oil and LPG fuelled heating systems)?
15.	Do you agree with our methodology for converting ECO3 bill savings into ECO4 bill savings?
16.	Should the ECO3 average cost per £ of lifetime bill savings be taken from the ECO3 Impact Assessment or the published energy efficiency statistics? Please explain your answer.

Carry-under

68. We recognise that social restrictions introduced due to COVID-19 had an impact on ECO delivery during April and May 2020. Delivery accelerated from June onwards and has continued to rise and outperform pre-pandemic levels. Given this trend, we expect all suppliers to meet their ECO3 obligations by 31 March 2022. However, in the unlikely situation where suppliers may fail to meet their obligations due to exceptional and unforeseen circumstances severely impacting delivery across GB, we propose to allow them to offset a limited amount of under-delivery by delivering more under the ECO4 scheme – referred to as ‘carry-under’. This would require changes to the current ECO3 Order to be implemented.

69. A carry-under mechanism has not been implemented between previous iterations of ECO, as it would only be needed in exceptional circumstances. If carry-under is implemented, we propose to allow suppliers to carry-under up to 10% of their ECO3 obligation (as well as any sub-obligations eligible in ECO4) to form an increased ECO4 target. Given the strong overall delivery progress since June 2020 which has continued an upward trend over the last year, as well as the positive progress against COVID-19 and economic recovery, we believe 10% would provide sufficient scope for under-delivery, if needed.

70. Additionally, we intend to implement a penalty rate multiplier of 1.1, meaning 110% of a supplier’s ECO3 under-delivery would be added to their ECO4 target.

This penalty rate would be necessary to ensure that suppliers remain incentivised to meet their ECO3 obligation.

71. However, given the ongoing risks of COVID-19, we will continue to monitor supplier delivery and market trends and may review these proposals considering that evidence, potentially easing the cap level and/or the penalty rate.
72. We propose that the carried-under ECO3 obligation would be converted into an ECO4 target consistently with the proposed carry-over calculation. This would mean multiplying the carried-under ECO3 obligation by the average cost per £ of lifetime bill savings. This would provide an estimate of the level of spending required to deliver the carried-under ECO3 obligation. This estimated cost would then be used to determine what the increase in a supplier's ECO4 bill savings target should be, by dividing this cost by the ECO4 IA estimated average cost per £ of annual bill savings.

$$\frac{\text{Cost of supplier for delivering their carried – under ECO3 obligation}(\text{carried – under ECO3 obligation} \times \text{the average cost per £ of lifetime bill savings under ECO3})}{\text{ECO4 IA costs per £ of annual bill savings}}$$

73. The resulting figure would then be multiplied by the penalty rate to determine the amount by which the supplier's ECO4 bill savings target should be increased.
74. We intend for the average cost per £ of lifetime bill savings (LBS) to be 31p per £ of LBS, taken from the final ECO3 Impact Assessment. This is due to the need for a specific value to be included in regulations and to determine the supplier's obligation for ECO4 before the start of the scheme.

Consultation Question

17.	Is carry-under needed to mitigate the risk of suppliers failing to meet their ECO3 obligations?
18.	Do you agree with the proposed cap of 10% and penalty rate of a 1.1 multiplier if carry-under is implemented?
19.	If carry-under is implemented, do you agree with our proposal for the ECO3 average cost per £ of lifetime bill savings to be 31p, taken from the ECO3 Impact Assessment?

Early delivery of measures during a gap between schemes

75. We intend to lay legislation as soon as possible after we publish the Government response. However, in the situation where the ECO4 Order is not in force on 1 April 2022, we will take steps to minimise the impact on obligated suppliers and the supply chain.
76. We propose to allow suppliers to deliver ECO4 eligible projects in the period between 31 March 2022 and the date when the ECO4 regulations come into force. This early delivery must meet the ECO4 scheme rules and will be awarded the ECO4 scores once notified after the scheme has commenced (see chapter 6 for measure notification requirements). To ensure that suppliers are aware of ECO4 scheme requirements, Ofgem intends to publish draft guidance before any potential gap between schemes.
77. Alongside the demand created through other energy efficiency policies, allowing delivery during this period would help prevent a hiatus in delivery.

Consultation Question

- | | |
|-----|---|
| 20. | Do you agree with our proposal for early delivery during any potential gap between schemes? |
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Chapter 2: Obligation Targets, Homes and Household Eligibility

This chapter outlines the proposed obligation targets and the changes we propose to the eligibility criteria.

Homes

Targeting SAP band D, E, F and G homes

78. To meet our fuel poverty commitments, we need to increase our focus further on upgrading the least energy efficient homes, so we plan to limit support to homes in bands D, E, F and G.

79. Limiting eligibility to band E, F and G homes would compromise the viability of the scheme. Band D homes are the most prevalent and including them would increase the eligible pool and improve the deliverability of the scheme.

A multiple measure approach

80. To ensure the scheme delivers on its objectives, we propose that to benefit from a full project score:

- any SAP band F, or G property treated must be improved to at least a band D¹⁹, and
- any SAP band D or E property treated must be improved to at least a band C.

81. Subject to certain exemptions discussed further in Chapter 4: Scoring, we propose that projects that do not achieve these Minimum Requirements (MR) would receive deflated partial project scores (see paragraphs 247 to 259).

82. These MRs facilitate more of a whole-house approach through the scheme. Without them, the supply chain is likely to stop delivering measures at the most cost-effective point in each property, rather than deliver further measures where there is not sufficient incentive to do so. These requirements are therefore better suited to meeting our objective.

¹⁹ Where the property's starting (i.e., pre-retrofit) SAP band was a high F or a high D, these would only need to be improved to a low D or low C, respectively.

83. These requirements are also aligned with the minimum improvement conditions proposed through the Home Upgrade Grant scheme, which also requires that any band F or G property is improved to at least a D and any band E or D property is improved to at least a C.
84. We have considered alternative options, such as an “optional but incentivised” minimum requirement, i.e., allowing single measure delivery, with a reward in the form of an uplift where the minimum requirement is met. However, we consider that uplifts would not be enough of an incentive to move homes further up SAP bands, nor to facilitate the shift in supply chain delivery that would be required to meet these requirements for E, F and G homes.
85. We have also considered mandating that all homes are improved to a band C, but this is not technically or economically viable for all homes. However, where it is cost-effective to do so, we would expect installers to improve homes beyond the MR and they would receive a higher project score in those scenarios.
86. Although we recognise that a whole-house approach is likely to increase the total delivery costs per property, it has comparatively smaller fixed costs relative to single-measure delivery over the longer term. For example, the documentation and assessment associated with each single measure installation is greater – on a per measure basis – than that associated with retrofits where three or more measures are installed. Furthermore, it is unlikely consumers would welcome the repeated disruption associated with multiple single measure installations as we progress towards our 2030 target.

Consultation Question

21.	Do you agree that ECO should target SAP band D, E, F and G homes?
22.	Do you agree that band F and G homes should be improved to at least a SAP band D, and that band D and E homes should be improved to at least a SAP band C, as a minimum requirement to receive a full project score?

Obligation target

87. The proposed ECO4 target for obligated suppliers is £94 million in notional annual bill savings to be achieved by March 2026. Furthermore, there would be:
- a minimum solid wall insulation upgrade requirement of 22,000 solid wall measures a year.

- a minimum equivalent of 100,000 private tenure homes with a pre-installation band E, F and G homes to be upgraded, so that the least energy efficient homes that may be the most difficult to find are not left untreated. Minimum upgrade requirements for all bands are described in Chapter 4: Scoring.

23.	Do you agree to a requirement for a minimum number of private tenure homes in SAP band E, F and G homes to be upgraded?
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Household Eligibility and Eligible Pool

Household eligibility

88. Government has committed to transforming homes in GB to be net zero and we will need to ensure that transition is fair for those who cannot pay for the upgrades to their homes. ECO already plays a role in that transition and as the Government increases its efforts, it remains the right approach to prioritise a subset of the population for this help.

89. Therefore, alongside targeting the least energy efficient homes, we propose to continue focusing support on low income and vulnerable households. ECO4 will be designed to complement other domestic energy efficiency policies. While its focus will be on owner occupied homes, it will also support inefficient social housing and private rented housing subject to some restrictions.

Eligible benefits and eligible pool

90. The proposals in this chapter aim to strike a balance between targeting low income households in the least efficient homes whilst making the scheme technically and economically viable. The combination of households in the most inefficient social housing, households in receipt of eligible benefits and local authority flexible eligibility, including some flexibility for suppliers (LA & Supplier Flex), would result in an eligible pool of at least 3.7 million households.

91. The latest fuel poverty statistics²⁰ suggest that 46.1% of fuel poor households are not in receipt of benefits. This presents a dilemma when we use benefits as our main proxy for identifying eligible households and it was a key reason for introducing LA flexible eligibility in 2017; we propose that a reformed local authority flexibility should continue, with some flexibility for suppliers.

²⁰https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/966471/Fuel_poverty_detailed_tables_2019_data_LILEE.xlsx

92. We propose to remove some benefits which are eligible under ECO3 to help better target households which are more likely to be on low incomes. We would maintain the DWP benefits verification tool which, under ECO3, has enabled around one million households to be checked for eligibility without having to submit any documentation.
93. We propose including additional DWP benefits so that low income households have access to ECO4 regardless of whether they receive benefits under Universal Credit²¹ (UC) or as part of the legacy benefits, which have not been migrated across to UC. Under ECO4, we propose to include housing benefit recipients who have not migrated across to UC. We would also extend support to those in receipt of Pension Credit Savings Credit to enable more low income pensioners to qualify for support. Proposed ECO4 eligible benefits are at Table 5. Table 6 shows the list of benefits that would no longer be eligible under ECO4. Child benefits with updated income caps would continue to be an eligible benefit (Table 7).
94. We also propose to include households in receipt of the Warm Home Discount (WHD) for both the core group and broader group, providing their homes meet the band D, E, F and G and ECO4 tenure requirements. Given the expansion and improved targeting of the WHD, this would provide suppliers with a better route to helping their customers.

Disability benefits

95. We propose that households with disabilities would be eligible only where they are in receipt of a means tested benefit. Therefore, higher-income recipients of, for example, Personal Independence Payment (PIP) would not be eligible. The 2017 English Housing Survey indicates that around 60% of disability benefit recipients also receive a means tested benefit. Fuel poverty rates among households receiving both a disability benefit and a means tested benefit (27%) are much higher than households only receiving a disability benefit (10%). Therefore, excluding non means tested benefits improves low income and fuel poverty targeting.
96. The 2017 English Housing Survey suggests that around 400,000 households in band D, E, F and G owner occupier homes are in receipt of disability benefits, with no other means tested benefits. These would not be eligible under ECO4, except where safeguards are in place to support disabled householders at risk of fuel poverty.

²¹ www.gov.uk/universal-credit

Safeguards for householders in receipt of disability benefits at risk of fuel poverty

97. We recognise there are households whose disability or health condition may be impacted further by living in a cold home and could put them at greater risk of fuel poverty. These households could still be eligible under a reformed LA & Supplier Flex.

Table 5: Full list of proposed eligible benefits which qualify under ECO4

ECO4 qualifying benefits:
Income based Jobseekers allowance (JSA) Income related Employment & Support Allowance (ESA) Income Support (IS) Pension Credit Guarantee Credit Working Tax Credit (WTC) Child Tax Credits (CTC) Universal Credit (UC) Housing Benefit (new eligible benefit under ECO4) Pension Credit Savings Credit (new eligible benefit under ECO4)

Table 6: Non means tested benefits that were previously eligible under ECO3 which would no longer be eligible under ECO4

ECO3 qualifying non means tested benefits:
Disability Living Allowance (DLA) Personal Independence Payment (PIP) Attendance Allowance Carer's Allowance Severe Disablement Allowance Industrial Injuries Disablement Benefit War Pensions Mobility Supplement Constant Attendance Allowance Armed Forces Independence Payment

Table 7: ECO4 Child Benefit income threshold

Type of claimant	Number of children or qualifying young persons			
	1	2	3	4 or more
Single claimant	£19,800	£24,600	£29,400	£34,200

Member of a couple	£27,300	£32,100	£36,900	£41,700
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The figures in the table above are taken from the ECO3 thresholds and inflated to 2022 figures, rounded to the nearest £100.

Consultation Question

24.	Do you agree with the proposal to (a) remove non means tested benefits including disability benefits as a method to target low income and vulnerable households, as listed in table 6?; and (b) include additional benefits within the eligibility criteria for private tenure households under ECO4 to align with UC?
25.	Do you agree with the proposals to increase the Child Benefit income caps as set out in table 7 under ECO4?
26.	Do you agree with the proposal that households in receipt of WHD also be eligible under ECO4, if they live in band D-G homes?

Local Authority & Supplier Flexible Eligibility Scheme (LA & Supplier Flex)

98. Under LA Flex, a participating local authority (LA) can refer private tenure households that it considers to be living in fuel poverty or on a low income and vulnerable to the effects of living in a cold home.

99. Local authorities are able to play a vital role to help target low income households who are not in receipt of one of the qualifying eligible benefits. For example, they may be able to rely on council tax data, such as council tax reductions beyond single person rebates, or links with health providers, or local authority schemes run in partnership with local charities or community groups.

100. Our auditing and evaluation of LA Flex has shown that fuel poverty targeting and robustness of targeting, and referral processes needs improving. The ECO evaluation, published alongside this consultation showed that 86% of those that had received assistance under LA Flex were satisfied with the process. However, some households reported they were surprised they were eligible given the level of their income. The evaluation revealed 12% of households had an income of over £40k pa, with 2% of households declaring their incomes were over £75K pa.

101. We believe that a new reformed LA Flex, which include some flexibility for suppliers under ECO4 can better focus on low income and vulnerable

households not on means tested benefits. Suppliers are already required to support households in energy debt, and their licence conditions were updated in December 2020, requiring them to identify and support pre-payment meter households who are self-disconnecting. We think enabling suppliers to identify householders in sustained energy debt for support under ECO, would help mitigate the risk of those households being in continued energy debt in future. Householders in sustained debt with their energy bills or households self-disconnecting from pre-payment meters may more likely be on low incomes.

102. Together with the reforms, we propose to allow for up to 50% of a supplier's obligation to be met through measures in households referred under the new LA & Supplier Flex.

LA & Supplier Flex due diligence

103. Under ECO4 all household referrals via LA & Supplier Flex declarations would need to meet the conditions as required in regulations. The regulations would include the eligibility requirements for a new reformed Statement of Intent (Sol). Evidence of eligibility from local authorities would rely on local authority Flexible Eligibility declarations (LA Flex declarations).
104. Local Authority Flex declarations would only be eligible where a local authority has published a Sol which meets the revised definition. The Sol would be required to state the LA's intent to participate in LA Flex and a commitment that the signing LA officer has checked and verified that declarations have been issued for households which match the criteria in the Sol. As with current Sols, they would need to be signed by the CEO or dedicated responsible person.
105. To mitigate risks of fraud and to safeguard against support being diverted away from low income households, we propose a requirement for all ECO measures notified by local authorities through the LA & Supplier Flex route to match up to local authority declarations. Local authorities would be able to notify Ofgem of LA & Supplier Flex declarations issued at the same time the declaration was issued to the installer/supplier. We would monitor the participation of the reformed LA & Supplier Flex and Ofgem would conduct annual LA & Supplier Flex audits, the results of which would be published. Furthermore, under our new regulations, we would not allow the sole use of customer self-declarations as acceptable evidence to verify a household income.

LA & Supplier Flex in Scotland and Wales

106. The Scottish and Welsh Governments may choose to take a more coordinated household referral approach on LA & Supplier Flex, at government level instead of individual local authority referrals. This approach may enable greater alignment with each country's own fuel poverty and energy efficiency

schemes. The LA & Supplier Flex eligibility routes below would continue to apply to referrals made in Scotland and Wales.

LA & Supplier Flex eligible referral routes

107. We propose four separate qualifying routes to identify low income and vulnerable households under LA & Supplier Flex. All four routes can be used by a single local authority, and each route can be used independently of each other. Suppliers may only use route 2 (paragraphs 113-114).

108. **Route one (household income)** to align with other BEIS energy efficiency policies which are aimed at low income households, namely the Home Upgrade Grant (HUG) and Local Authority Delivery (LAD), we propose using a household income cap of £31,000. This is in recognition that ECO4 is a 4-year scheme. This amount is also around £8,000²² above the means tested benefits threshold for couples or single parent families living in London, where living costs may be higher than other parts of GB. For simplicity, the same cap would be used regardless of property size or region but using this single figure we intend to reach other low income households who may not be claiming benefits or are just above the benefits threshold. We recognise that a single household income cap may not capture households with high household costs, which is why there are other routes that a local authority could use to refer low income and vulnerable households.

109. **Route two (proxy targeting)**. Using single proxies may not effectively target low income households. However, combining them would help to target support to those households living in bands E, F and G. Households could qualify if they meet a combination of two different proxies to evidence a household is low income. An example might be where the Lower Super Output Area (LSOA) 1-3 and Council Tax reductions beyond a single person rebate are combined. Proxies must demonstrate that a householder is low income or both low income and vulnerable. A householder would need to fall under any two proxies in the categories below to be eligible under ECO4 (see table 8). Where the LSOA and NICE proxies are combined, there would be a requirement to choose a third proxy for a householder to be eligible; this is because these are very broad proxies compared to the others in the list and used together may not be as effective in targeting low income and vulnerable households. In some circumstances, obligated suppliers would be able to refer householders under route 2 (see 'supplier data' paragraph 113-114 below).

²² <https://www.turn2us.org.uk/Benefit-guides/Benefit-Cap/How-much-is-the-Benefit-Cap>

Table 8: Multiple Proxy category to target low income and vulnerable households

<p>A household must be in bands E, F or G and meet any two of the following qualifying criteria:</p>
<ul style="list-style-type: none"> • *Home is in LSOA 1-3 area • A householder receives a Council Tax rebate – (rebates based on low income only, excludes single person rebates) • *A householder is vulnerable to living in a cold home as identified in the NICE Guidance (only one from the list can be used, excludes the proxy 'low income') • A householder is referred under a Local Authority run scheme which aims to support low income and vulnerable households. • A householder receives free school meals • Household identified as struggling with sustained debt on utility bills and mortgage payments and has been referred to the Local Authority for support by Citizens Advice, their energy supplier or from their mortgage lender. <p>*If choosing both, another one must be selected from the list</p>

110. **Route three (NHS referrals)** under this option we have looked at health conditions that could be severely impacted by the effects of living in a cold home. We have adopted an umbrella approach to be applied in cases where a person is suffering from a severe and/or long term health condition that could be severely impacted by living in a cold home. The conditions that would fall under this umbrella approach are respiratory, cardiovascular, limited mobility or immune suppressed conditions.

111. As we have removed disability benefits, we wanted to put in place some safeguards that would help those who are suffering from conditions that are likely to be most affected from living in a cold home. The four conditions listed are umbrella conditions, as we recognise that there could be many different conditions that could fall underneath each of those. Long term health conditions such as diabetes and mental health have a very broad spectrum in how it might affect someone, so their health condition may not necessarily be impacted further by living in a cold home any more than without those conditions.

112. **Route four (bespoke targeting)**. We also want to explore a fourth route to incentivise innovative methods to more accurately target low income and vulnerable households. A supplier or local authority could submit a proposal explaining how they would achieve a high proportion of fuel poverty targeting. For

example, this could include specifically targeted referrals, campaigns or use of data. The proposal would be submitted to and assessed by a BEIS panel and if it were approved, projects completed in households targeted using that method would receive a score uplift. We have not fully developed how this route would work and welcome views about whether it would be attractive and effective. If we decide to adopt it, we will provide further details in the response to this consultation and in guidance.

Supplier Data

113. Under the LA & Supplier Flex route 2, obligated suppliers could use their own data to target households who are either:

- struggling with persistent fuel debt and are supported by suppliers, or.
- using pre-payment meters (PPM) who have regularly been unable to stay connected to their fuel supplies, due to financial hardship; these are often referred to as self-disconnections²³.

114. Local authorities and suppliers could work together to combine proxies to target households. Only in circumstances where suppliers can meet the criteria in route 2, without the use of LA owned data, they may sign the declaration for the eligible householder. Where both supplier data and LA data has been used, the declaration would be signed by the LA.

115. We propose simplifying LA Flex by removing separate in-fill rules for households in receipt of benefits or those referred by local authorities. There would be different in-fill rules for houses and flats (see section ‘in-fill’ below). Local authority declarations would only be accepted for ECO4 eligible households.

Consultation Question

27.	Do you agree that up to 50% of the ECO target could be delivered through LA & Supplier Flex?
28.	Do you agree with the proposals for improved due diligence under the reformed LA & Supplier Flex?
29.	Do you agree with the four referral routes that could be used by local authorities under LA & Supplier Flex? Are there other ways we could incentivise better targeting?

²³ <https://www.ofgem.gov.uk/publications/self-disconnection-and-self-rationing-decision>

30.	Do you agree that obligated energy suppliers should (a) be able to use their own data on households in fuel debt, or PPM self-disconnections to target low income and vulnerable householders; and (b) households would be eligible if they meet the 2-proxy requirements, using suppliers own customer debt or PPM self-disconnections data under LA & Supplier Flex route 2?
31.	Do you think the Scottish and Welsh Governments should be able to refer households under LA & Supplier Flex, instead of local authorities in those countries?

Rural and off-gas delivery

116. Government remains committed that ECO4 continues to deliver measures in rural areas and recognises the difficulties that can be faced by off-gas grid households. There are approximately 542,000 off-gas fuel poor homes in England representing 17.1% of all fuel poor households²⁴. That is why we have introduced the Home Upgrade Grant (HUG) in England, focused on low income households living in inefficient off-grid homes. We propose designing ECO4 to complement the HUG in England whilst continuing to support off-gas homes in Wales and Scotland through the continuation of an off-gas uplift.
117. We propose to uplift the final scores for off-gas properties in Scotland and Wales that receive ECO support by 35%. This is based on our modelled estimates of the extra costs of treating off-gas homes relative to gas heated properties. While we do not intend to provide this uplift to off-gas homes in England, they would remain eligible for ECO4, as well as HUG.
118. A percentage uplift, rather than a fixed rate, is preferred because the former makes improving households with the largest scores more attractive – which would typically be band F and G households. Moreover, the proportion of off-gas households that are band F and G is much greater than on-gas. As such, there is more of a need to incentivise treatment of these households.

ECO4 interaction with other funding

ECO4 interactions with the Home Upgrade Grant (HUG) (England only)

²⁴ <https://www.gov.uk/government/statistics/fuel-poverty-detailed-tables-2021> (Table 10)

119. Home upgrades under ECO4 will receive a score based on a package of measures. As HUG is also a whole house upgrade scheme, we do not expect funding to be blended as part of the ECO4 package of measures. ECO4 would work on the basis that a package of measures would be delivered, based on the starting band of the property and finishing, at least, on the MR. Any other measures delivered to that property would have to be installed either before the ECO4 measure, or after all the ECO4 measures. HUG and ECO4 could work in tandem, if different measures are delivered under HUG that are not included in the package of upgrades for ECO4 to meet the MR. For example, insulation measures could be delivered under ECO4, followed by a heat pump under HUG. In this example, a heat pump would not be eligible for an ECO score.
120. Where HUG funding is available for multiple dwelling upgrade projects, we anticipate off-gas home upgrades to be delivered wholly under that funding. Where projects cannot be fully funded under HUG, ECO4 may be used for upgrading other dwellings in the project, subject to those households meeting the ECO4 eligibility criteria.
121. If the HUG scheme does not coincide with ECO4 for its duration, we propose that off-gas properties in England receive the same uplift as those in Scotland and Wales. Any such uplifts would require mid scheme regulatory changes, and subject to parliamentary time.

ECO4 interactions with Clean Heat Grant (CHG)

122. Measures installed under ECO3 cannot be blended with funding from the Domestic and Non-Domestic Renewable Heat Incentive (RHI) apart from ground source heat pumps. We allowed this exception because of the high upfront costs associated with the installation of the ground loop, which can last for many decades, analogous to gas infrastructure.
123. The RHI will close to new applications as scheduled, at the end of March 2022, but support for domestic renewable heating will continue under the Clean Heat Grant (CHG) and Home Upgrade Grant. Both schemes will focus support to off-gas grid homes.
124. The CHG intends to support the installation of heat pumps and, in limited circumstances, biomass heating systems. We propose to remove the previous exception for ground source heat pumps since the CHG will provide upfront grants rather than monthly payments (under RHI) to support the installation of this measure. As such we would not allow any measures which receive a CHG to be eligible for ECO4. Similarly to HUG, a home could be upgraded with heating

measures through the CHG and insulation measures through ECO4, but the heating measure would not be eligible for an ECO score.

ECO4 interactions with other Grant schemes

125. Some grant schemes do not allow blending of funding with other grant schemes where measures are to be fully funded under a single scheme. ECO is not a grant, but to avoid duplication of subsidy for the same measure, we do not think blending should be allowed with ECO where grant funding is paying for the same measure.
126. Government heating and energy efficiency schemes are evolving at pace, so it would not be possible to list all that could overlap with the ECO4 scheme during its four-year lifespan. However, as is the case in ECO3, we expect individual measures to only receive funding from one government scheme. Similarly to HUG, grant funded measures would need to be installed either before any ECO measures or after the package of ECO measures. If other measures are delivered before ECO measures, improving the energy efficiency of the property, the property band must remain eligible under ECO4.
127. We are exploring with TrustMark how measures and packages of measures lodged to the data warehouse, could identify and prevent duplication of funding from different schemes.

Consultation Question

32.	Do you agree that off-gas uplifts of (a) 35% should be applied to Scotland and Wales; and (b) not applied in England, where the Home Upgrade Grant is available?
33.	Do you agree if a measure is funded under ECO, then other grant funded schemes should be prohibited from blending with the same measure under ECO?
34.	Do you agree homes could benefit from multiple funding if (a) it is not for the same measure; and (b) if other grant funded measures are installed either before ECO4 or after all the ECO4 measures?

ECO Eligible Referral (EER)

128. Obligated energy suppliers could target their own energy supply customers who may be on low incomes if their eligibility is verified because the customer is on ECO eligible benefits. Verification of eligible benefits is possible under the data sharing powers granted under the Digital Economy Act 2017 part 5 (36,37). This tool is referred to as 'ECO Eligible Referrals' (EER) and was introduced in 2021 under ECO3. We intend to continue with it under ECO4 as it is a cost-effective targeting tool for households on ECO eligible benefits.

Consultation Question

35.	Do you agree that we continue with the ECO Eligible Referrals mechanism under ECO4?
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In-Fill

129. In-fill is a mechanism which allows homes to be treated under ECO even if households do not meet the low income eligibility criteria. These in-fill homes must be near the homes occupied by ECO eligible households. We introduced it under previous iterations of ECO to enable local economies of scale, for measures such as solid wall insulation and in some circumstances district heating. Under ECO4, in-fill measures would be extended to cavity wall insulation for flats. Without this provision, low income households living in mixed tenure cavity walled flats may not be supported under ECO.

130. We propose a simplified in-fill mechanism under ECO4.

- **Flats:** A ratio of 1:1 in flats for solid wall insulation, district heating and cavity wall insulation. This would enable flats to be upgraded subject to each block of flats being at least 50% occupied by those meeting the ECO4 eligibility criteria. The in-fill rule would apply irrespective of whether the in-fill flats within the same block are privately rented, owner occupied or social housing. There would be no restrictions on eligible household bands in in-fill homes, however the ECO4 eligible households must be in band D-G private tenure and E-G for social housing and meet the proposed MRs. This approach would enable entire blocks of flats to be upgraded.
- **Houses:** A ratio of 1:3, so one in-fill property for every three homes that meet the ECO4 eligibility criteria. Under this scenario measures would be restricted to solid wall insulation and district heating only. Unlike previous ECO schemes, the in-fill house does not need to be next door to a qualifying house, however all homes must share the same street address to qualify.

131. In-fill houses on the same street (except flats) must be band D, E, F or G. All in-fill homes, whether in flats or houses would not be required to meet the MRs or the minimum insulation requirements given the restrictions on eligible measures for in-fill homes. Proposed scores for in-fill homes are set out in Chapter 4: Scoring.

Consultation Question

36.	Do you agree with our proposals to (a) simplify the in-fill mechanism with the new ratios for flats and other housing to qualify?; and (b) include CWI in-fill?
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Private Rental Sector (PRS) Eligibility

132. The proposed minimum energy efficiency standard of band C for PRS is planned for new tenancies from 2025 and all tenancies from 2028. The government response to the PRS consultation²⁵ will inform the details of how and to what extent low income tenants in PRS homes could be supported under ECO4. We recognise the urgent need to improve the least efficient homes and we propose for PRS homes to be supported under ECO4.

133. PRS upgrades supported under ECO4 would need to meet the MRs, however eligible measures would be restricted. A package of measures installed in the property must include at least one of the following: solid wall insulation, first-time central heating, a renewable heating system, district heating; in addition to any further ECO measures that are needed to meet the MRs. Heating measures will also be required to meet the minimum insulation requirements. The ECO4 MR for band E, F and G homes would typically require at least one of these measures and they would often exceed the £10,000 cost cap proposed under the PRS consultation. These measures may be less typical in band D homes.

134. Given landlords' responsibilities under the Private Rented Sector Minimum Standard Regulations, we would continue to exclude support under ECO for replacement or repair of broken heating measures as part of any package upgrades so that landlords do not use it to meet their basic requirements, unless the replacement heating measure is FTCH.

²⁵ <https://www.gov.uk/government/consultations/improving-the-energy-performance-of-privately-rented-homes>

Consultation Question

37. Do you agree with our proposal to (a) support low income private rental households, with the design being subject to the outcome of the PRS consultation; and (b) limit support to packages of measures that meet the MR including solid wall insulation, first-time central heating, a renewable heating system or district heating?

Social Housing Eligibility

135. On average, social housing tends to be more energy efficient than private sector housing in England²⁶. As of 2019, only 0.8% of English homes in the social rented sector were categorised under the two worst bands, F and G²⁷. A similar picture is observed in Scotland²⁸ and Wales²⁹. The social rented sector in both Scotland and Wales has some of the most energy efficient homes, with over 90% and 96% already achieving a Band D or above, respectively (2018).

136. However, as ECO4 will focus support on low income households, we intend to continue support to social housing tenants living in the least energy efficient homes. As in ECO3, we propose to limit eligibility to homes starting at band E, F and G and limit eligible measures to insulation, first-time central heating, a renewable heating system and district heating. We would allow smart heating controls as a new eligible measure to mitigate barriers to meeting MR. MRs would also apply to social housing.

137. We also intend for social housing band D to continue to be eligible for Innovation Measures (IMs). (See Chapter 8: Innovation) Band D social housing will also be required to meet the MR, but homes would not be eligible for other measures to meet the MR other than IMs. Continuing limiting social housing band D homes to innovation measures would continue focus on the development of improved products under the Innovation mechanism.

138. Separate funding and commitments currently exist for social housing energy efficiency upgrades in England³⁰, Scotland³¹ and Wales^{32,33}. We do not expect blended funding for the same measure under ECO and the Social Housing

²⁶ <https://www.gov.uk/government/statistics/annual-fuel-poverty-statistics-report-2021> Fig 3.15

²⁷ <https://www.gov.uk/government/statistics/english-housing-survey-2019-to-2020-headline-report> Section 2, Fig 2.11

²⁸ <https://www.gov.scot/publications/energy-efficient-scotland-user-guide-social-landlords>

²⁹ <https://www.gov.wales/welsh-housing-conditions-survey-energy-efficiency-dwellings-april-2017-march-2018>

³⁰ <https://www.gov.uk/government/publications/sustainable-warmth-protecting-vulnerable-households-in-england>

³¹ <https://www.gov.scot/policies/home-energy-and-fuel-poverty/energy-efficiency-in-social-housing>

³² <https://www.gov.wales/written-statement-optimised-retrofit-programme-2020-21>

³³ <https://www.gov.wales/welsh-housing-quality-standard>

Decarbonisation Fund. Similarly to HUG and CHG, any other measures delivered to that property would have to be installed either before the ECO4 measure, or after all the ECO4 measures. Social housing funding and ECO4 could work in tandem, if different measures are delivered under any social housing fund that are not included in the package of upgrades for ECO4 to meet the MRs. For example, insulation measures could be delivered under ECO4, followed by a heat pump under the Social Housing Decarbonisation Fund. In this example, the heat pump would not be eligible for an ECO score.

Consultation Question

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| 38. | Do you agree with the proposal to (a) allow social housing tenure with starting bands of E, F and G to be eligible under ECO4; and (b) continue eligibility for band D social housing under Innovation Measures? |
| 39. | Do you agree that the minimum requirements should apply to E, F and G social housing and band D social housing for IMs? |

Chapter 3: Eligible Energy Efficiency Measures

139. This chapter outlines our proposals for ECO4 eligible energy efficiency measures.

140. For ECO3, changes were made to encourage the delivery of measures that are most beneficial over the long term and are proven to be more cost effective in tackling fuel poverty, such as insulation and first-time central heating (FTCH). Our proposals in this chapter seek to build on these and align ECO4 with our wider decarbonisation ambitions. We intend to continue a transformation towards net zero, via a whole-house, fabric-first approach, which maximises the carbon savings from heating measures.

We aim to achieve this through the following proposals:

- a solid wall insulation minimum and broader insulation preconditions would be introduced for all homes receiving heating measures;
- oil and LPG heating systems would be excluded;
- renewable and district heating systems (DHS) would remain eligible in all homes regardless of current heating system, other than biomass, which would be restricted to homes in rural areas, and mains-gas-fuelled hybrid systems, which would be restricted to on-gas homes;
- new restrictions would be placed on delivery of electric storage heaters (ESH);
- for efficient boilers and ESH that are broken, we propose to incentivise repairs. Replacements would only be eligible in circumstances where they cannot be economically repaired. Support for repairs and replacements would each be capped at 5,000 homes per year;
- replacement of inefficient boilers, ESH and FTCH (including renewable and DHS) would not be capped;
- FTCH would be reformed so that more heating systems are eligible for support, with gas central heating restricted to on-gas homes only;
- all new wet central heating would be required to be “low-temperature heating systems”;
- advice on the benefits of smart meters and how to request an installation must be given to all ECO households; and
- smart technologies not captured in SAP (for example, flexible heating systems and battery storage) would be eligible via the alternative methodology route.

Scope of HHCRO regulations

141. Our Affordable Warmth, ECO3 targets are based on the Home Heating and Cost Reduction Obligation (HHCRO) powers set out in the Electricity Act 1989, Section 41B, and Gas Act 1986, Section 33BD. This allows Government to set a target for the promotion of measures for reducing the cost to individuals of heating their homes.
142. Although HHCRO remains the most appropriate target for fuel poor consumers (over a Carbon Emission Reduction Obligation (CERO) target, which could promote some measures leading to higher energy bills), it limits eligible measures to those that achieve a reduction in home heating costs.
143. There are measures that do not fall within the current scope but would reduce household energy bills. These include: lighting; water heating measures; and self-generated electricity/battery storage that do not also provide space heating. Although most of these measures are included in the Standard Assessment Procedure (SAP) (which we propose to form the basis of ECO4 scores) or are likely to be in the future and therefore recognised in an EPC, they are not currently eligible under the scheme.
144. We recognise that all energy used in a property contributes to a household's energy bill and focusing solely on space heating therefore overlooks other factors that might impact the ability of fuel poor households to heat their home. Additionally, as properties become more energy efficient, non-space heating will become a larger proportion of domestic energy consumption.
145. We therefore propose to widen the scope of the HHCRO definition to a 'Home Energy Cost Reduction Obligation' if we obtain these powers in the future to allow non-space heating measures to be delivered within ECO. This change would allow more energy saving measures to be delivered to fuel poor households, reducing their energy bills further while contributing to net zero. However, such a change to primary legislation will not be in place by 2022 and there is no certainty that it will be in place during ECO4.

Consultation Question

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| 40. | Do you agree that the scope of the Home Heating Cost Reduction Obligation (HHCRO) should be broadened to a Home Energy Cost Reduction Obligation? |
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Continuing a fabric first approach

146. Improving the energy efficiency of homes by adopting a ‘fabric first’ approach is key in ensuring the transition to low carbon heating is cost-effective for households, the energy system and society. This is also in line with the PAS2035 standard, which advises that fabric improvements should always be considered first when formulating retrofit plans.
147. Under the current ECO3 scheme, we introduced a dual heating and insulation measure package to encourage a more multiple-measure and ‘fabric first’ approach to treating homes. Additionally, all homes receiving FTCH (including renewable and DHS) are required to have their cavity walls and lofts/roofs insulated where such insulation is possible.
148. As such, for ECO4 we intend to continue a fabric-first approach via a combination of a Solid Wall Minimum Requirement (SWMR) and minimum insulation requirements for homes receiving heating measures through the scheme (explained further below). We would also continue to mandate compliance with the fabric-first approach set out in PAS 2035 (see Chapter 7).

Solid Wall Insulation

149. For ECO3, we retained a SWMR equivalent of 17,000 solid walled homes per year, to be met either through delivering solid wall insulation (SWI) or alternative technologies (Solid Wall Alternative Measures (SWAM)) that achieve equivalent or higher lifetime bill savings to SWI.
150. By December 2020, around 90% of owner-occupied solid walled homes in Great Britain remained uninsulated compared with only 30% of cavity walled homes³⁴. Low income, vulnerable and fuel poor households remain disproportionately affected due to their lack of access to the funds required to install such measures. The ECO Household Evaluation³⁵ found that only 16% of surveyed households who received SWI would have had it installed without help.
151. We recognise that the majority of these uninsulated solid walled homes are bands E, F or G, and expect that SWI will be delivered to meet the proposed MRs for these homes. However, without a SWMR, the supply chain could, in some circumstances, choose to install a combination of other measures to reach the

³⁴ Household Energy Statistics 2021 Report: <https://www.gov.uk/government/statistics/household-energy-efficiency-statistics-detailed-report-2020>

³⁵ <https://www.gov.uk/government/publications/eco-evaluation-wave-1-interim-report-2020>

MR rather than SWI, which is more effective at alleviating fuel poverty over the longer term. For example, some solid walled homes could in some cases meet the MR via a heat pump, a heating control and loft insulation.

152. Setting a SWI minimum would also help ensure that delivery to harder-to-treat homes is more evenly distributed across all suppliers by, for example, preventing a smaller supplier from purely targeting the lower cost cavity wall homes to meet their obligation.

153. Therefore, to provide the SWI industry with delivery certainty, and to ensure consumers are receiving the most effective measures at reducing fuel poverty, we intend to continue to set a SWMR for ECO4 and remove the option to meet this through SWAM. We intend to increase this target to 22,000 SWI measures per year. This figure is based on what analysis reveals will be required for homes to meet the proposed MRs, while also taking into account the risk of consumer rejection due to household disruption.

Consultation Question

41.	Do you agree with our proposal to maintain a Solid Wall Minimum Requirement set at 22,000 solid wall insulation measures per year for ECO4 and remove the option for this to be met via alternative measures?
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Minimum insulation requirements for heating measures

154. With the introduction of MRs (see Chapter 2), we expect the majority of ECO homes to receive insulation as part of the package of measures installed. However, we recognise that consumers are often more accepting of heating measures, and that for a significant number of band D rated homes and a smaller amount of band E, F and G rated homes, the proposed MRs could be met through heating measures alone. For example, analysis reveals that in a small number of circumstances, a boiler upgrade and various heating controls can meet the MRs as well as FTCH measures alone.

155. To prioritise a fabric-first approach, we propose that any band D home receiving any eligible heating measure other than FTCH (including renewable and DHS) must also have at least one primary insulation measure installed, unless all eligible fabric measures are already installed (to current building regulations where possible), or where relevant exemptions apply. The primary insulation measure must be installed before any heating measures where possible.

156. We intend for this requirement to broadly mirror the current primary and secondary heating policy, with the exception of the new three-month project installation time limit (see Chapter 6).

157. We will continue to limit eligible primary insulation measures to:

- flat roof insulation;
- pitched roof insulation;
- room-in-roof insulation;
- wall insulation (insulation of a cavity wall or solid wall insulation);
- park home insulation; and
- floor insulation.

158. For all band D homes receiving FTCH (including renewable and DHS) and for all E, F and G homes receiving any heating measure, we propose to require that the current ECO3 pre-installation insulation requirements for FTCH are met. As such, these homes must have all the following areas insulated, unless all eligible fabric measures are already installed (to current building regulations where possible), or where relevant exemptions apply, before receiving any eligible heating measure(s):

- exterior facing cavity wall;
- loft (including rafters) or roof (including flat roof, pitched roof and roof and room-in-roof).

159. Once the above-mentioned primary insulation requirements are met, the secondary heating measure(s) must be installed:

- a) at the same premises where the relevant primary insulation measure(s) has been installed;
- b) by the same obligated supplier that installed the primary insulation measure(s); and
- c) on or no more than three months after the date on which the primary insulation measure(s) is installed (see Chapter 6 on installation timings).

160. The exemptions set out in Chapter 4 will also apply where relevant.

161. This approach would ensure that the fabric efficiency of homes is improved and therefore more compatible with lower-temperature heating systems, while also bringing consumers further out of fuel poverty.

Consultation Question

42.	Do you agree with our proposal to introduce the proposed minimum insulation preconditions for all homes receiving heating measures?
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Eligible heating measures

162. Net zero can only be achieved if almost all heat in buildings is decarbonised. The Government’s roadmap to decarbonising homes provides a clear direction of travel for the 2020s to ensure we are on track for net zero. Heat pumps are expected to play a significant role, with the goal of delivering 600,000 heat pumps a year by 2028³⁶.

163. For on-gas homes, this also includes limiting support for new gas heating systems to homes already connected to the gas grid and improving the efficiency of new and existing heating to further reduce energy bills and carbon emissions. For off-gas homes this includes decarbonising off-gas replacement heating.

164. Our ECO4 proposals are intended to support these decarbonisation goals both on and off the gas grid. We intend to define “on-gas” as homes connected to the mains-gas grid regardless of the home’s current heating type, and “off-gas” as those not connected to the mains-gas grid.

Oil and LPG heating systems

165. In line with our ambition to phase out high-carbon fossil fuels, we excluded coal-fuelled heating systems in ECO3. Although we excluded the installation of new oil heating systems, we allowed a limited number to be repaired or replaced and allowed Liquid Petroleum Gas (LPG) systems to remain eligible.

166. For ECO4, we intend to fully align ECO with our decarbonisation strategy and exclude all oil and LPG fuelled heating system replacements and repairs through the scheme. As such, any hybrid oil and LPG systems will also be excluded.

Consultation Question

43.	Do you agree with our proposal to exclude the repair and replacement of oil and LPG heating?
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³⁶ HMG. ‘The ten point plan for a green industrial revolution’ (2020), <https://www.gov.uk/government/publications/the-ten-point-plan-for-a-green-industrial-revolution>

Heating repairs

167. Currently, all heating systems are eligible for repair where it is economical to do so, but boiler and ESH repairs are restricted to no more than 5% of a supplier's ECO3 obligation for each measure. These repairs are also required to have a 2-year guarantee in line with guarantee requirements for wider heating installations through the scheme.
168. To date, we have seen no boiler or ESH repairs. Instead, efficient condensing gas boilers, many of which were installed through ECO³⁷, are being replaced after around 3-8 years. This is before the end of their expected lifetime of 12 years.
169. As such, for ECO4, we intend to incentivise the repair of efficient heating systems, where it is economical to do so, with a new uplift which is based on the expected costs of repairing boilers and ESHs respectively to ensure repairs are properly incentivised over replacements (see chapter 4 for more information on uplifts). However, we require additional information on the costs of ESH and boiler repairs to set these uplifts.
170. The new uplift intends to enable the repair of efficient heating systems to take place given the absence of SAP improvements associated with heating repairs. However, we propose to cap efficient boiler and ESH repairs at 5,000 homes per year as uplifting the score for repairs is untested, and we recognise there could be some gaming risks associated with evidencing requirements. To maintain fairness, this cap would be set relative to each supplier's obligation. This cap has been set on the basis of a reduced number of homes being treated through ECO4 and only efficient broken heating being eligible for repairs.
171. Broken inefficient heating systems would therefore no longer be eligible for repairs but would be eligible for uncapped heating upgrades (see section below) due to the associated bill savings for consumers.
172. Broken efficient heating systems that cannot be economically repaired may be replaced through the Broken Heating Cap or replaced with renewable heating or DHS³⁸ (see section below).

³⁷ Of the boilers installed under ECO3 to date, 75% replaced boilers installed under ECO1 and 21% under ECO2.

³⁸ Note, fuels used for DHS must be no more carbon intensive than mains-gas. Grey hydrogen is not an eligible fuel other than for temporary testing of equipment.

173. We intend to work with Ofgem to explore the potential to benchmark the cost of repairs for common faults, tighten up the evidential verification requirements to ensure the assessment is accurate, and improve the monitoring of duplicate replacements to reduce the risk of gaming. To support us with this work we are seeking evidence from industry on the common costs for gas boiler and ESH repairs (see question 66).

174. We also intend to work with TrustMark to review the current warranty requirements for repairs, including the work within scope of the warranty as well as the duration, to ensure that the guarantees are fit for purpose, and that any current delivery barriers are removed in line with wider industry practice, as set out in Chapter 7.

Consultation Question

44.	Do you agree with our proposal to only allow the repair of efficient heating up to a cap of 5,000 homes per year?
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Broken efficient heating system replacements and inefficient heating upgrades

175. The current Broken Heating Cap allows broken heating systems to be replaced up to an equivalent of around 35,000 heating systems per year. This is intended to provide support to households with broken heating systems who may be unable to repair or replace them with a functioning system and may therefore be forced to use expensive coping strategies such as plug-in electric heating or be forced to live in a cold home. The Warm Homes Discount also provides financial support for homes in these situations as a temporary solution.

176. The replacement of any broken heating systems with the installation of FTCH, renewable heating, DHS, and heating replacements delivered alongside insulation are not capped under ECO3.

177. For ECO4, we intend to retain the Broken Heating Cap, but restrict this to efficient³⁹ broken heating replacements that cannot be economically repaired. Inefficient⁴⁰ heating (whether broken or not) must be upgraded with an efficient replacement that meets the new boiler and ESH replacement standards (see

³⁹ An efficient boiler is a condensing boiler. An efficient electric storage heater is one with a responsiveness of more than 0.2 when assessed against the Standard Assessment Procedure (SAP).

⁴⁰ An inefficient boiler is a non-condensing boiler. An inefficient electric storage heater is one with a responsiveness of 0.2 or less when assessed against the SAP.

section below), or, where eligible, replaced with FTCH (including renewable or DHS), all of which would be exempt from the cap.

178. As such, we propose to reduce the current Broken Heating Cap to 5,000 homes per year. To maintain fairness, this cap would be set relative to each supplier's obligation. Combined with the broken heating repair cap, this would enable support to 10,000 homes with broken efficient heating systems per year, which is proportionate to the reforms made to broken heating and the proposal to allow uncapped broken inefficient heating replacements through the scheme.

179. Efficient boiler and ESH replacements would also receive uplifts through the scheme to take into account the absence of sufficient SAP improvements associated with, for example, replacing a broken condensing boiler with a new condensing boiler (see Chapter 4). We do not intend to award uplifts for inefficient heating system replacements or broken fossil fuel heating replaced with renewable heating as they would have associated SAP improvements.

Consultation Question

45.	Do you agree with our proposal to reduce the Broken Heating Cap for broken efficient heating replacements up to 5,000 homes per year?
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Eligible measures for on-gas homes

180. We will continue to allow renewable heating and DHS (including mains-gas fuelled hybrids) to replace any heating measure in on-gas homes.

181. Where a home is connected to the mains-gas grid but does not have gas central heating, we will continue to allow gas, renewable and DHS FTCH to be installed. Homes that are electrically heated will remain eligible for ESH (or any other electric heating with equivalent to or greater efficiency gains than new ESH), and solar PV where either a heat pump or efficient electric heating is the primary heat source of the home. This must be in line with the broken heating cap and efficiency improvements proposed below.

Boiler and ESH replacements

182. We intend to require that all new ESH installed (in both on and off-gas homes) must be a high heat retention ESH or those with a SAP responsiveness rating of 0.8 or above, which may also be smart enabled (see section below in this Chapter). We will continue to define an inefficient ESH as one with a SAP

responsiveness of 0.2 or less.

183. As Boiler Plus measures (including smart controls, flue gas heat recovery and load or weather compensators) raise the standard of boiler installations, reducing carbon emissions and bills, we also intend to require that all boilers installed through ECO4 must meet Boiler Plus standards.

184. The Boiler Plus consultation response⁴¹ made clear that hydraulic balancing is an expected practice to be completed when new heating systems are installed. When a central heating system is properly balanced, radiators will heat up throughout the house at the same rate. In an unbalanced system, the hot water may not reach some radiators as quickly as others, or in some cases not at all. Research undertaken on behalf of BEIS⁴² suggests unbalanced systems and not completing regular maintenance have a negative impact on system performance. We would therefore like to reiterate that whenever boilers are replaced through ECO installers should ensure the central heating system is balanced.

Consultation Question

46.	Do you agree with our proposal that all new ESH delivered (both on and off-gas) must have a SAP responsiveness of 0.8 or above?
47.	Do you agree with our proposal to require all new gas boilers installed throughout GB to meet the Boiler Plus standards?

First Time Central Heating (FTCH)

185. FTCH can be a highly effective measure in alleviating fuel poverty, making it easier and more efficient to heat the home. Currently, homes with heating systems that do not fall within the definition of a central or district heating system⁴³, and do not contain an efficient repairable electric storage heater, are eligible for FTCH fuelled by gas, renewable or DHS.

⁴¹ Heat in Buildings Boiler Plus Report (2017) <https://www.gov.uk/government/consultations/heat-in-buildings-the-future-of-heat>

⁴² <https://www.gov.uk/government/publications/heat-storage-and-distribution-systems-hds>

⁴³ Provides heat for the purpose of space heating through a boiler or other heat source connected to one or more separate heat emitters (Article 2 – The Electricity and Gas (ECO) Order 2018).

186. For ECO4, we propose to allow mains-gas (and hybrid mains-gas) FTCH to be delivered to on-gas homes only. For these on-gas households, who may be unable to afford the installation of a gas central heating system, this is likely to remain a cost-effective option to heat their homes whilst reducing their energy bills. Restricting support to on-gas homes would align delivery with our off-gas net zero goals and prevent us from expanding our reliance on natural gas.
187. To further support fuel poor homes in transitioning to low carbon heating, we propose to require that all wet central heating systems installed through ECO4 (including renewable and DHS) must be installed as a “low-temperature heating system”.
188. We intend to define a “low-temperature heating system” as a system sized to operate with a flow temperature of 55 degrees Celsius or lower. However, where it is not feasible to install a space heating system that can operate at this temperature (for example, where there is insufficient space for larger radiators, or the existing distribution system is provided by higher temperature heat from a low carbon district heat network; or where the ECO home heating cost reduction requirement cannot be met⁴⁴), we intend to allow exemptions to this requirement. Where it is not feasible, the space heating system should be designed to the lowest temperature possible, while still meeting the heating needs of the dwelling, (further guidance can be found in The Building Research Establishment’s Design of low-temperature domestic heating systems (FB59)⁴⁵). Lower-temperature heat emitters are likely to result in lower running costs for fossil fuel heating systems and also transition the home towards low carbon heating.
189. We also propose to amend the definition of FTCH⁴⁶ to allow systems such as warm air central heating to become eligible.
190. We therefore propose to restrict delivery of FTCH to homes that either:
- a) at no point prior to the installation of FTCH were heated by a wet central heating system, or DHS, or an efficient or repairable ESH, (for example, old inefficient heating systems such as warm air systems, which fall within the current definition of a central heating system, but have no pipes or

⁴⁴ “Cost savings” means, in relation to a measure – (a) the money that would be saved by that measure over its expected lifetime in heating domestic premises to 21 degrees Celsius in the main living areas and 18 degrees Celsius in all other areas (Article 2, The Electricity and Gas (ECO) Order 2018).

⁴⁵ HM Government, Approved Document L – Conservation of fuel and power, Volume 1: dwellings, Consultation version (January 2021), <https://www.gov.uk/government/publications/building-regulations-approved-documents-l-f-and-overheating-consultation-version> [page 46]

⁴⁶ The installation of a central heating system or district heating connection at domestic premises – which at no point prior to the installation were heated by a central heating system or a district heating system, and which immediately prior to the installation do not contain an efficient repairable electric storage heater (Article 2, The Electricity and Gas (ECO) Order 2018).

radiators to transmit hot water around the home, would be eligible; or where a home is heated by direct electric heating) or

- b) where electric storage heating is present, to homes heated by ESH that are all inefficient or broken immediately prior to the installation of FTCH and at no point prior to the installation, were heated by a wet central heating system, or DHS (for example, homes that have only ever been heated by ESH, which are now all inefficient or broken, and within the home prior to work being undertaken, would be eligible; where ESH have been removed from the home prior to work being carried, these homes would not be eligible).

191. Other than these limitations, we do not intend to cap FTCH whether it be fuelled by mains-gas, renewable or DHS.

Consultation Question

48.	Do you agree with our proposal to restrict gas first-time gas central heating to households already connected to the gas grid?
49.	Do you agree with our proposal for all new wet central heating systems to be installed as a “low-temperature heating system”?
50.	Do you agree with our proposals to expand the eligibility for first-time central heating?

Eligible measures for off-gas homes

192. In line with our decarbonisation goals, we intend to allow unlimited delivery of heat pumps to all off-gas homes while placing further restrictions on the delivery of biomass, DHS and ESH measures.

193. Delivery will be incentivised to these more costly off-gas homes by the off-gas uplift in Wales and Scotland (see Chapter 4), and we expect homes in England to be supported primarily under the Home Upgrade Grant, which would focus on low income households that do not use mains-gas as their primary heating system.

Heat pumps, solid biomass and district heating

194. BEIS analysis suggests that around 80% of fossil fuel heated off-gas homes have sufficient energy efficiency and internal electrical limits to accommodate a

low-temperature hydronic heat pump⁴⁷, with this potentially rising to around 90% where homes have fabric upgrades⁴⁸. Therefore, as we would expect hydronic heat pumps to be technically possible for most off-gas homes, we intend to require that a hydronic heat pump (including FTCH) is installed in all off-gas homes where it is considered reasonable and practical to do so⁴⁹. As set out in the FTCH section above, these systems must be installed as a “low temperature heating system” where possible.

195. However, we recognise that, as things stand, installing a heat pump in some off-gas homes may not always lead to home heating bill savings.

196. As such, where a hydronic heat pump is not possible, we would allow a solid biomass heating system using approved sustainable fuel listed on the Biomass Suppliers List or an equivalent scheme⁵⁰ to be installed. However, these systems would only be allowed in rural areas. We intend to define rural areas as those outside of settlements with a population of 10,000 people or more⁵¹. We would also allow DHS to be installed in these instances, also meeting the “low temperature heating system” requirements where possible. However, we recognise there may be fewer rural homes where DHS is suitable.

197. Where none of the above heating systems are suitable and a home is not currently electrically heated, that home would remain eligible for insulation. Following this, where there are too few ECO-eligible measures recommended in PAS improvement option evaluation (IOE)⁵² and pre-installation EPC, these homes would be exempt from the MRs (see Chapter 4).

⁴⁷ A heat pump connected to a wet central heating system.

⁴⁸ BEIS analysis based upon the National Household Model. BEIS 'National Household Model' (2017), <https://data.gov.uk/dataset/957eadbe-43b6-4d8d-b931-8594cb346ecd/national-household-model>. Modelled technical suitability is based on consideration of thermal and electrical constraints at dwelling levels. This does not consider additional constraints such as space, noise, aesthetics and the implications for the low voltage network.

⁴⁹ The Government intends to issue guidance on how to determine whether it is reasonable or practicable to install a heat pump in the home but it is expected that this will include factors such as heat loss, potential to upgrade energy efficiency if necessary, availability of appropriate space, and any legal constraints. We would expect this to be evidenced in the relevant PAS 2035:2019 documentation including the whole house assessment, medium term improvement plan and improvement option evaluation.

⁵⁰ Biomass Suppliers List, <https://biomass-suppliers-list.service.gov.uk/>

⁵¹ 2011 Rural Urban Classification, <https://www.gov.uk/government/statistics/2011-rural-urban-classification> and Scottish Government Urban Rural Classification 2016 <https://www.gov.scot/publications/scottish-government-urban-rural-classification-2016/>

⁵² This document contains a list of all energy efficiency measures deemed appropriate for the property.

Existing electrically heated homes

198. Where an off-gas home is currently electrically heated, we propose the additional following conditions:

Electric storage heaters and air to air heat pumps

199. ESH may be installed where a hydronic heat pump, solid biomass heating system or DHS is not reasonable or practical to install. The new ESH efficiency requirements (see section above) and Broken Heating Cap would also apply where relevant.

200. For all homes (both on and off-gas), we also intend to allow any other electric heating to be installed (such as air to air heat pumps or infrared heating) where the efficiency gains are either equivalent to or greater than those associated with installing new ESH at the property.

201. However, homes that do not have electric heating as their primary heat source (both on and off-gas) would not be eligible for new ESH, or any other electric heating (other than heat pumps), to avoid switching from fossil fuels to more costly electric heating.

Solar PV

202. We will continue to allow solar PV to be installed in all electrically heated homes (on and off-gas) where a biomass or DHS is not a viable option and either a heat pump or high heat retention storage heating (or other electric heating with equivalent or greater efficiency gains than new ESH) is the primary heat source of the home. We will also allow PV export costs to contribute to bill savings, to align with the approach used within SAP.

Consultation Question

51.	Do you agree with our proposal to restrict biomass boilers or district heating systems to off-gas grid homes that are not electrically heated and cannot reasonably or practicably receive a hydronic heat pump?
52.	Do you agree with our proposal to restrict the installation of electric heating (that is, or equivalent to, a high heat retention electric storage heater) to homes that are already electrically heated and where it is not reasonable or practicable to install a hydronic heat pump, district heating system or a solid biomass heating system?

Smart meters

203. Smart meters are replacing traditional gas and electricity meters across Great Britain as part of an essential infrastructure upgrade to make the energy system more efficient and flexible, helping to deliver net zero emissions cost-effectively. As of 31 March 2021, there were 24.2 million smart and advanced meters in homes and small businesses in Great Britain⁵³. All domestic consumers are offered In-Home Displays (IHD) as part of the smart meter installation, which give customers accurate, accessible and near real-time consumption and price information, which helps them make changes to their energy use and save money on bills.
204. We support the installation of a smart meter alongside ECO measures as they are naturally a pre-requisite for smart tariffs and can work alongside other smart technologies that may be delivered through ECO in the future. The Government wants all consumers to benefit from smart metering, and obligations have been placed on energy suppliers to drive a market-wide rollout⁵⁴. However, the decision to accept the offer of a smart meter rests with the consumer. In light of this, we do not intend to introduce smart meters as an eligible ECO measure or mandate their installation through the scheme.
205. Instead, given the consumer and system benefits of smart metering, we propose that the provision of smart meter advice is made a mandatory requirement alongside the initial retrofit energy advice provided to householders required by PAS2035. This must include advice about the benefits of smart meters⁵⁵, and how to request the installation of a smart meter (where one is not already installed in a home). We expect that the provision of smart meter advice would likely lead to increased awareness of the benefits of smart metering amongst low income and vulnerable consumers⁵⁶.
206. Given the existing availability of free materials relating to smart metering, we do not expect this proposal to result in a significant increase in administrative costs for energy suppliers.

⁵³ <https://www.gov.uk/government/statistics/smart-meters-in-great-britain-quarterly-update-march-2021>

⁵⁴ <https://www.gov.uk/government/consultations/smart-meter-policy-framework-post-2020>

⁵⁵ Smart Energy GB is responsible for the national smart meter consumer engagement campaign for the rollout. Their activities include raising awareness of smart meters, driving behaviour change, and helping consumers benefit from smart metering. They have developed a wide range of materials and resources (including those in alternative formats and language iterations) which can be used to deliver advice about the benefits of smart meters. Smart Energy GB is a not-for-profit organisation funded by energy suppliers. Further information is available at: <https://www.smartenergygb.org>.

⁵⁶ Consumer awareness of smart metering remains lower for some audiences, including some consumers who are more likely to be in vulnerable circumstances.

Consultation Question

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| 53. | Do you agree with our proposal that energy suppliers should be required to provide advice on the benefits of smart meters and how to request the installation of a smart meter alongside the energy advice requirements required by PAS 2035? |
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Smart technologies and flexible heating systems

207. To meet our climate change targets, we need to rapidly shift away from fossil fuels to cleaner forms of energy. To do this, we need to generate energy from low carbon sources such as solar, wind power and hydrogen, and electrify much of our energy demand, including shifting to electric heat.
208. This shift will bring opportunities for consumers to save money, by using smart technologies that enable them to use their electricity flexibly. For example, using flexible heating systems alongside smart meters, smart tariffs and energy storage will enable consumers to change their consumption patterns to match times of cheap and abundant low carbon electricity, give consumers greater control over energy usage and comfort levels, and save money by helping to balance the energy system. Smart digital technologies can communicate in real time to respond to price signals and provide flexibility to the system to balance grid supply or demand through the ability to increase, decrease or shift in time, the consumption or generation of energy.
209. The government's Smart Systems and Flexibility Plan which will be published shortly will set out how we will facilitate the transition to a smarter and more flexible energy system to meet our net zero goals. 'Sustainable Warmth', the government's fuel poverty strategy for England⁵⁷, published in February, highlighted the importance of smart technologies for those in fuel poverty.
210. We support the inclusion of smart technologies combined with time-of-use tariffs in ECO where there is evidence of savings to household heating bills. However, we recognise that the benefits of smart technologies are not yet fully recognised within the Standard Assessment Procedure (SAP) methodology. Industry is currently considering whether they should be considered as part of the reformed SAP 11⁵⁸ update, which is expected towards the end of ECO4.

⁵⁷ <https://www.gov.uk/government/publications/sustainable-warmth-protecting-vulnerable-households-in-england>

⁵⁸ BRE, A report on the likely mainstream technologies in the mid-2020's that SAP11 will need to consider, (April 2020), https://files.bregroup.com/SAP/SAP_11_Technologies_Report_Final_v2.0.pdf

211. Ahead of any incorporation into the scheme via SAP, we intend to continue to allow suppliers to apply to Ofgem to receive a score through the alternative methodology route (see Chapter 4). Where a measure is considered to be an improvement on an existing measure, suppliers can also apply for an uplift through the innovation measure uplift route following any successful alternative methodology application.
212. In order to be eligible as a smart technology, the measure will have to meet additional criteria, including being used with a functioning electricity smart meter. Additional criteria could also include half-hourly settlement and proof that the measure is smart enabled, safe, and secure, for example through adherence to standards⁵⁹.
213. In order to maximise the benefit of flexible electric heating systems, consumers need to be able to shift their demand away from peak periods of demand, when electricity generation may be more costly and carbon-intensive (e.g., 5-7pm in the evening), to times when generation is cleaner and cheaper. This also helps decarbonise the wider energy system by optimising renewable energy sources.
214. However, households must remain comfortable even when the heating system is not drawing from the grid. This will require some form of energy storage. Storage can take many forms, for example:
- heat stored in the fabric of the building, e.g. a well-insulated home will have lower heat loss;
 - hot water storage;
 - electric battery storage; and
 - heat batteries (phase change material).
215. We would therefore expect this to be demonstrated before any Alternative Methodology application can be approved. We are interested in views on how this can best be demonstrated.

⁵⁹ PAS 1878:2021, Energy smart appliances – System functionality and architecture – Specification and PAS 1879:2021, Energy smart appliances – Demand side response operation – Code of practice
<https://www.bsigroup.com/en-GB/about-bsti/uk-national-standards-body/about-standards/Innovation/energy-smart-appliances-programme/>

Consultation Question

54. How should suppliers be required to demonstrate that a flexible heating system is safe, secure, smart-enabled and installed with sufficient energy storage, and in a way that means the heating system will operate flexibly?

Chapter 4: Scoring

This chapter outlines our proposals for the ECO4 scoring framework.

Scoring a multiple measure approach

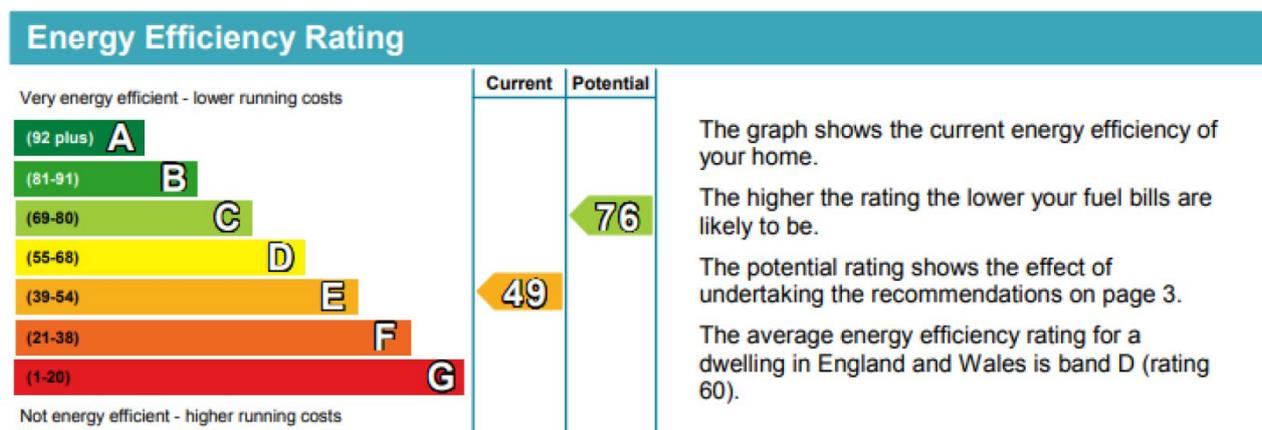
216. ECO3 uses a measure-specific, deemed scoring approach based on a set of predictable assumptions that are not impacted by the current SAP rating⁶⁰ or existing energy efficiency measures at the property. The ECO3 scoring framework therefore puts a weak incentive on improving homes further up SAP bands and does not specifically reward the treatment of lower SAP-rated properties.
217. The ECO3 approach is therefore less suited to delivering against our two overarching objectives: upgrading fuel poor homes to energy efficiency rating of band C by 2030 as far as reasonably practicable; and providing greater support to the least energy efficient homes. As such, for ECO4, we propose to impose a revised scoring approach that is better aligned with these objectives.
218. We intend to impose a core scoring requirement for the ECO4 scoring methodology to be based on the difference in average annual bill expenditure between the starting SAP rating of the property (pre-retrofit) and the finishing SAP rating of that property (post-retrofit). We also intend for this methodology to have regard to the floor area of a property, given this has a strong influence on expected energy costs. We intend to continue to require Ofgem to publish the scoring methodology, which should also consider any implications for wider scheme risks such as gaming and impacts on the distribution of support to homes.
219. Our analysis reveals that a scoring approach based on these inputs is likely to result in greater support being directed to the least energy efficient homes than alternative methods and will incentivise industry to improve homes further up SAP bands.
220. This approach will mean that a supplier's final score for each property would be based on the final package of measures installed rather than on a per-measure basis and is therefore better aligned with a whole-house retrofit approach.

⁶⁰ A SAP rating can be the band (A-G) or the underlying SAP point (1-100). SAP points are more granular elements on the same scale as bands: G spans points 1-20, F 21-38, E 39-54, D 55-68, C 69-80, B 81-91 and A 92-100.

Overarching scoring framework

221. Options for the overarching scoring framework that meet our core scoring requirement broadly fall into two groups: deemed approaches, where the savings are assumed based on various proxies; and, bespoke SAP/RdSAP savings that are specific to a household following a SAP or RdSAP assessment⁶¹.
222. Our preference is for a deemed approach, with full project scores based on the average change in fuel expenditure between SAP ratings of homes, categorised by floor area groupings.
223. We recognise that this overarching approach could be based on the difference in average annual bill expenditure between starting and finishing full SAP bands (e.g., a band F moving to a band D), intermediate SAP bands (e.g., a low F moving to a low D) or SAP points (e.g., a 49 moving to a 76), see figure 2, below.

Figure 2: Energy Efficiency Rating, front page of sample domestic EPC



224. Analysis reveals that scoring based on the difference in average annual bill expenditure between full SAP bands does not incentivise improvement of homes further up the final SAP band reached even where it is cost effective to do so. This is because no additional score would be awarded where the next SAP band has not been reached – so for example, when upgrading a band G home there is no incentive to reach a high D compared to a low D.
225. Use of intermediate SAP bands is therefore likely to result in higher average SAP point improvements in each home and more treatment of properties starting

⁶¹A SAP or reduced data SAP (RdSAP) assessment is used to assess and compare the energy and environmental performance of dwellings. The assessment is based on standardised assumptions for occupancy and behaviour.

at the lower end of a given SAP band as greater scores would be awarded incrementally.

226. Final scores, henceforth referred to as ‘full project scores’, based on the difference in average annual bill expenditure between individual SAP points, could similarly incentivise greater SAP improvements per home, even where only marginal improvements are made. Given the majority of homes upgraded would reach a band C already, we do not want further improvements in these homes to come at the expense of treating more homes below band D. Simply put, we would rather treat more homes than improving homes to a high band C and beyond. Furthermore, basing the full project score on individual SAP points could also increase gaming risks, given that simply inflating a small number of SAP inputs could gain a higher score.
227. Full project scores based on intermediate SAP bands would strike an appropriate balance of reduced gaming risks while contributing to our overarching objectives. This approach is therefore our preference for ECO4 and has been modelled in the draft IA accompanying this consultation.
228. Furthermore, this approach would result in a final score that is measure-agnostic, enabling the supply chain to meet the proposed MRs with the measures that are most suitable for each property as determined via the PAS2035 assessment and design, including the IOE and medium term improvement plan (MTIP)⁶², rather than any approach based on defined combinations of measures.
229. However, we recognise that there are variations that could be applied to the deemed scoring approach while still aligning with our core scoring requirement set out in paragraph 218. For example, increasing the number of intermediate SAP bands. Ofgem expects to consult on proposals that are in line with this approach for ECO4 scores in Summer 2021.
230. We have considered a bespoke SAP approach, with full project scores based on the actual difference in average annual bill expenditure associated with the difference in actual SAP rating. However, evidence and feedback from previous ECO schemes shows that bespoke scores are more complex, more uncertain and more prone to gaming.
231. Conversely, a deemed approach that groups scores based on floor area (with bill savings averaged across properties within a group), would result in fewer incentives to cherry pick homes with the greatest savings and support is therefore likely to be more evenly distributed across different-sized properties.

⁶² A medium term improvement plan (MTIP) is a document “to guide the stage or phased improvement of a dwelling by identifying the improvements that are needed and an appropriate order for their implementation, and by highlighting critical interactions between them” (PAS 2035:2019, paragraph 5.2.2).

232. Lastly, as any obligation target will be based on English Housing Survey (EHS) data, modelling the target based on the individual SAP point improvement for each property could lead to an obligation target being ‘overfitted’⁶³ to EHS data, significantly raising the risk of the obligation target being too unrealistic. Using deemed scores based on SAP point improvements averaged across starting full or intermediate SAP bands and floor areas reduces this risk by reducing the reliance on individual data points.

Consultation Question

55.	Do you agree that the ECO4 scoring methodology must be based on the difference in average annual bill expenditure between the starting SAP rating and finishing SAP rating of a property, with regard given to the property’s floor area?
56.	Do you agree that the overarching ECO4 scores should be based on deemed savings, rather than the actual savings generated through bespoke SAP calculations at each property?

Meeting the ECO4 ‘minimum requirement’

233. As set out above, we propose that to benefit from a full project score:

- any SAP band F, or G property treated must be improved to at least a band D⁶⁴, and
- any SAP band D or E property treated must be improved to at least a band C.

234. Subject to certain exemptions discussed further below, we propose that projects that do not achieve these MRs should receive deflated partial project scores (see below).

Consumer preference

235. As part of PAS2035, retrofit designers are required to agree with homeowners and landlords what technically appropriate measures should be installed in a property⁶⁵. Where the MR can be met through a range of available measures,

⁶³ Overfitting is an issue where a model works very well on the data it was built on, but then does not work on different data (or real-world applications) because the model too closely resembles the training data - it is too specific and not universal enough.

⁶⁴ Where the property’s starting (i.e. pre-retrofit) SAP band was a high F or a high D, these would only need to be improved to a low D or low C, respectively.

⁶⁵ PAS 2035:2019, paragraph 9.1.7, p18

consumers would be able to choose which measures are installed, provided it is in line with the PAS assessment and design, including MTIP.

236. Where consumer preference would mean an MR is not met, e.g., where a consumer did not want some of the recommended measures in a package due to expected household disruption, we propose that the consumer can only reject – or accept – the whole package.

237. Allowing an exception to the MR due to consumer preference is likely to significantly increase the risk of gaming, and any associated evidencing requirement is likely to increase scheme complexity and be burdensome to administer. Additionally, the removal of one measure simply due to consumer preference, could, in some circumstances, inhibit the extent to which all measures collectively interact appropriately.

238. We recognise that this is a firm approach, however given that any consumer exemptions of this nature could risk the scheme falling short of our MRs while increasing gaming risks, we view this as necessary to make greater progress towards our fuel poverty targets.

239. Additionally, we intend to take further steps to support consumers in making the right decisions for their health and for their home, through potentially increased support for ancillary services (see paragraphs 351 to 356) and hard-to-treat issues. Both of which should help encourage more consumers to have measures installed in their home.

240. Where any measures are notified at a property that does not meet the MR and where no exemptions apply (see paragraph 244), deflated partial project scores would be awarded for that property.

Exemptions to the minimum requirements

241. We recognise that not all eligible homes will be able to meet the MRs for varying reasons. We therefore propose to allow exemptions to the MRs for all Band E, F and G properties in defined circumstances. We do not intend to allow exemptions for band D homes, other than for heating pre-condition insulation requirements, due to their relative prevalence and ease of upgrade.

242. These exemptions are intended to cover situations where it is determined that a property is, for example, not suitable for specific measures that are needed to meet the MR, or where meeting the MR would create unacceptable or undesirable outcomes.

243. Where any of the following exemptions do apply, the property would only be exempt from the MR where there are otherwise too few suitable ECO-eligible measures to meet the MR as set out in the PAS IOE and corresponding pre-

installation EPC. However, we welcome views as to whether this evidencing approach is suitable as well as any possible alternatives.

244. The proposed exemptions are:

- Where the property is a listed building;
- Where the property is in a conservation area (and failed to gain planning permission);
- Where the property houses a protected species that would be materially affected by one or more installations (most likely – though not necessarily – bats);
- Where local environmental conditions mean some measures can never be appropriately installed (for example regular exposure to driving rain);
- Where the structure or fabric of the building or access constraints prevents installation of some measures – e.g., a narrow passageway that cannot accommodate scaffolding for external wall insulation or a wall type that is not suitable for cavity or solid wall insulation; and,
- Where it would otherwise be unlawful – e.g., where planning permission has been refused.

245. We expect there to be limited eligible households that fall into these categories however where one of these exemptions applies, all other ECO-eligible measures recommended in the IOE must be installed, with the property's pre-installation EPC also used to evidence this.

246. Treated properties that meet one of the exemption criteria above would receive full project scores based on the overarching scoring approach for the measures installed, i.e., the difference in average annual bill expenditure between the starting and finishing SAP rating of the property.

Consultation Question

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| 57. | Do you agree with our proposed approach for allowing exemptions to the minimum requirements? If you propose additional exemptions, please suggest how they could be evidenced. |
|-----|--|

Awarding partial project scores

247. Our core scoring requirements would result in a full project score being issued once the entire project is complete, and therefore the finishing SAP rating has been achieved.
248. On a per project basis, whole-house retrofit is likely to take longer than single measure delivery. Where it is recommended via the PAS2035 retrofit design and MTIP, it may be possible for measures to be installed simultaneously, thereby reducing project timelines. However, as set out in the 'Minimum insulation requirements for heating measures' section in chapter 3, this would not be possible where insulation minimum requirements must be met ahead of any heating measures being installed. Additionally, the PAS2035 framework may also require that one measure type must be installed before another as part of the MTIP.
249. As stated in chapter 6, we propose to require that each retrofit is completed within three months of the first measure being completed. However, even where projects are completed within three months, this could still result in installers being left without payment for too long.
250. We recognise that any decision to issue payments to installers will remain a private contractual matter between energy suppliers and the supply chain. However, to reduce risk throughout the supply chain, and enable a level of score certainty on a single measure basis, we intend for deflated partial project scores (PPSs) to be awarded for all projects (applicable to D, E, F and G homes) as each measure is notified and approved by Ofgem. A notified measure would need to be in line with the PAS2035 retrofit design, including MTIP, and deemed compliant by Ofgem before any PPS can be awarded.
251. We intend for any PPS to be in line with the proposed core scoring requirements and therefore based on the difference in average annual bill expenditure between the starting SAP rating (pre-installation) and the finishing SAP rating (post installation), with regard given to the floor area of the property.
252. We understand that Ofgem intends to consult in Summer 2021 on proposals for PPS methodologies that are consistent with our core scoring requirements.
253. Awarding PPSs that account for all of the associated SAP improvement of an installed measure(s) before the MR has been met would undermine the incentive to meet the MR. This is because a supplier could choose to meet all or part of their obligation through PPSs only, rather than via scores from completed projects that meet the MR.

254. As such, we propose to require that all PPSs are deflated to maintain the incentive on industry to complete the confirmed projects and reach the MR for each property. However, we also want to ensure the deflated PPSs remain high enough to allow installers to be paid for work at least in part.
255. The rate at which PPSs must be deflated needs to strike a balance between these two aims, however this rate will depend on the final PPS methodology published by Ofgem. Nevertheless, we intend for deflation rates to be set at around 30-40% of the full PPS. The preferred rate of deflation for PPSs is, in part, determined by PPS methodology because the deflation rate may also have to ensure that individual PPSs are not greater, in aggregate, than the overall project score.
256. As a further safeguard against widespread delivery of partial projects, we propose to place a cap on the share of a supplier's obligation that can be comprised of scores from partial projects. Projects that are not yet complete, i.e., partial project scores awarded mid-project, as well as complete projects with measure rejections and projects with exemptions, would not fall within this cap.
257. We intend for the following to contribute to this cap:
- measures installed after the three-month retrofit time-limit has passed (excluding measures installed to counteract one or more rejected measures);
 - those retrofits where the consumer ended the project for unpermitted reasons before the MR could be met (see the 'Consumer circumstances' sub-section, below) and,
 - retrofits that do not meet the MR after the three month time-limit has passed, e.g. because an installer chose not to meet the MR.
258. We intend for the cap to be set at between 20-30% of a supplier's overall obligation, however this will also be dependent on the final PPS methodology decided upon by Ofgem. The PPS cap and PPS deflation rate are interdependent because a higher or lower deflation rate could result in fewer or greater numbers of projects not meeting the MR, respectively. As such, the PPS would need to be set accordingly to reflect this likelihood, otherwise the PPS cap could either make the scheme undeliverable or allow too many partial projects.
259. If scheme delivery is significantly different from what is anticipated, we may consider a mid-scheme change to either the PPS cap or the PPS deflation rate if this is necessary to ensure the policy meets its intended objectives or ensure scheme deliverability.

In-fill measures

260. In-fill homes are restricted to SWI, DH and cavity wall insulation (CWI) measures to encourage economies of scale in streets and viability of upgrade

projects, particularly in flats. There is no requirement for these homes to meet the MR. As households occupying in-fill homes would not meet householder eligibility under ECO, they can be expected to contribute to measures if they intend to benefit from ECO. In-fill homes would therefore be awarded a deflated PPS score similarly to the standard PPS approach per notified measure, with separate deflators of between 20% and 30%. This approach would enable more support going to low income households, whilst also achieving economies of scale.

261. PPSs for in-fill will not be capped, because in-fill homes can only be associated with other nearby homes occupied by households meeting the ECO4 eligibility criteria.

Packages with rejected measures

262. Individual measures must be rejected where they do not comply with scheme requirements. This can be due to administrative errors, fraud, or other scheme compliance issues. Where a measure is not compliant with scheme requirements, it will be processed in accordance with Ofgem's rejection process.

263. We recognise that for ECO4, one rejected measure could result in the property no longer meeting a MR. In these instances, we intend to allow suppliers to take steps to ensure the project does meet the MR through the installation of more measures.

264. Where a measure is rejected after the full project has been notified and approved, and the rejection cannot be rectified, we propose to award suppliers full project scores for all remaining measures in that package as long as the MR was originally met at the point of notification, with some limited exceptions, for example where the household is found to be ineligible and in cases of fraud.

265. Where a rejection occurs in a package that had met the MR at the point of notification and an additional measure(s) is then installed, suppliers would be awarded a full project score for all measures.

266. Where the rejection is due to, for example, a minor administrative error and the rejected measure is functioning normally in the household, meaning the MR is still met in practice, we also propose for a full project score to be awarded to all remaining measures.

267. We do intend to award partial project scores for remaining measures in some circumstances, principally where the project was found to not meet the MR at the point of notification. The specific reason for rejection would determine whether a package with a rejected measure (that cannot be rectified) receives either PPSs or a full project score, in line with the key principles set out above.

268. This approach ensures that suppliers, and in turn installers, are not penalised by the score for the entire project being completely rejected or deflated where a property still meets the MR in practice.

269. Illustrative examples of rejection types and whether a full project score or deflated PPS would apply are set out in table 9 below. This is not an exhaustive list of reasons for why a measure in a package might be rejected and any final decision will rest with Ofgem. In all rejection instances, the rejected measure would not count towards the supplier's score for that package.

Table 9: Illustrative examples of rejection types by the score awarded

Reason for rejection	Score awarded
<u>Unjustified duplicate measure</u> : where a measure is notified more than once or where a measure was also notified at the same property under ECO1, 2 and 3, and is found to be unjustifiably duplicated, meaning the MR was not met at the point of notification and approval.	Deflated PPS
<u>Administrative error where the MR was met at the point of notification</u> : For example, where no consumer signature on one piece of documentation.	Full project score

270. Where an exemption applies to a project we recognise that a new MR applies, i.e. all measures deemed appropriate by the PAS retrofit design, including in the IOE, must be installed. The household's pre-installation EPC would also be used to evidence this. Where a rejection occurs that cannot be rectified in a package where an exemption applies, we would impose the same principles as set out above: if all measures deemed appropriate are completed at the point of notification, a full project score would apply to all remaining measures.

271. Rather than resulting in a deflated PPS, some measure rejection types would result in all measures in the package being rejected, and no score for the household being awarded. For example, where the occupant or property was never eligible for ECO4.

Consumer circumstances

272. Occasionally, a consumer's circumstances may change after installation work has begun, which prevents the relevant MR from being met. To prevent measures being stranded, we propose to award either a deflated partial project score or a full project score. This would be dependent on the reason the consumer ended the project. This approach would ensure that industry continues to receive a score for work completed.

273. Table 10 sets out our proposed approach for where deflated PPSs apply. In all scenarios, the assumption is that the consumer ended the project before the MR could be met.

Table 10: Permitted and unpermitted reasons for a consumer ending a project before completion

Reason for ending the project	Deflated partial project score awarded?
Due to change of occupancy, where the new occupant is ineligible or wishes to end the project	No
Due to disruption caused by the works or where the consumer otherwise changed their mind about the project	Yes

274. We intend for deflated PPSs to be awarded where the consumer chooses to end the project before the MR has been met as without a disincentive, this situation could be exploited to avoid the MR. Building in mechanisms to prove the consumer made this choice (and not, for example, an installer) would also increase scheme complexity and cost for industry and Ofgem. Awarding deflated PPSs in this situation also encourages the supply chain to make customers fully aware of the scheme’s MRs before they agree to participate.

Consultation Question

58.	Do you agree with our proposal to use deflated partial project scores for ongoing projects, ahead of completion?
59.	Do you agree with our proposal to use deflated partial project scores where a project is found to be non-compliant with the minimum requirement at the point of notification?
60.	Do you agree with our proposal to use deflated partial project scores where a consumer ends a project before the minimum requirement has been met for reasons other than change of occupancy?
61.	Do you agree with our proposal to cap the share of a supplier’s ECO obligation that can be comprised of scores from partial projects? Do you agree that this cap should be set between 20-30%?

62.	Do you agree with our proposal to use deflated partial project scores for in-fill homes, with a deflation of between 20% and 30%?
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Move to annual rather than lifetime bill savings

275. In the current and previous ECO schemes, individual measure scores are multiplied by measure-specific lifetimes to incentivise the installation of measures that deliver greater savings over longer periods of time.

276. However, our intention to move towards more of a multiple measure approach brings to light new challenges for applying individual lifetimes to packages of measures.

277. Any approach to reflect measure lifetimes into scores would require the bill savings of the whole package to be multiplied by either the total or average measure lifetime of each package. As our overall scoring approach would see around two or more measures delivered on average, the accuracy of either lifetime approach at the individual measure level becomes negligible, while the risk of unintended consequences is significantly increased.

278. Moreover, our proposed MRs themselves place an implicit incentive on the use of longer lifetime fabric measures due to their necessity in meeting the MRs. This is because the most cost-effective route for meeting the MR is likely to be through insulation measures in most cases. In addition, our minimum insulation requirements for heating measures set out in chapter 3 also mandate a fabric first approach; all of which would be further safeguarded via the fabric first approach recommended through PAS2035⁶⁶.

279. On this basis, we intend to remove the requirement for ECO scores to be multiplied by measure-specific lifetimes for ECO4. In practice, this would mean that the final score is not multiplied by the average or total lifetime of the installed measure(s) but is, by default, based on the annual bill savings of the project.

280. However, we propose to continue to require that all current and new measures have an associated lifetime to be installed through the scheme. This lifetime would be used to benchmark appropriate guarantee requirements and for scheme reporting purposes (see chapter 7 on guarantees).

⁶⁶ See PAS 2035:2019, section 5.4

Consultation Question

63.	Do you agree with our proposal to incentivise the use of longer lifetime measures through minimum requirements and heating insulation preconditions rather than including measure lifetimes in ECO4 scores?
64.	Do you agree that we should continue to require measure lifetimes through the scheme to benchmark guarantee requirements and for scheme reporting purposes outside of the scoring framework?

Applying uplifts

281. For ECO3, certain uplifts can be applied to the deemed scores to help incentivise particular measures in particular circumstances. Although under ECO4, we are proposing to require more multiple measure delivery using scores based on the starting and finishing SAP rating of homes. We propose to continue to allow certain uplifts to be applied to scores to support specific policy aims.

282. We propose to continue the following uplifts:

- Innovation Measure uplifts (IM);
- replacement of efficient broken boiler and electric storage heater (ESH) uplifts; and
- off mains-gas uplifts.

283. However, for ECO4, we propose to remove the LA Flex F & G non-PRS uplift and introduce new uplifts for efficient broken heating repairs, hard-to-treat issues and pay-for-performance. Similarly, should the demonstration action mechanisms be removed for ECO4, the associated uplifts for these measures would no longer apply. We are also considering an LA Flex-specific uplift, discussed in chapter 2.

284. The intent of these uplifts is to ensure relevant measures are cost effective to deliver, rather than contributing further to the SAP MRs. Converting additional savings associated with uplifts into an expected SAP rating increase would also increase complexity.

285. Besides innovation measures, which can sometimes result in greater bill savings than their standard counterparts, none of the uplift scenarios would result in any additional efficiency gains for the consumer. As such, we do not intend for the additional score associated with uplifts to contribute towards the MR in any package in which they are applied. The additional score from uplifts would therefore simply be deducted from a supplier's obligation, as in ECO3.

Innovation Measure uplifts

286. As set out in chapter 8, the innovation measure uplift supports the wider delivery of more innovative measures to ECO households, and we recognise that the methodology for applying the uplift will affect the delivery of innovative measures.
287. In line with the ECO3 IM uplift approach, we propose that an innovation measure uplift is applied proportionately to the share of the partial project score savings the innovation measure accounts for in that specific package of measures.
288. The proposed methodology for applying innovation measure uplifts must also be in line with our core scoring requirements. We understand Ofgem intends to provide examples in its scoring consultation demonstrating how the IM uplift is applied in relation to the PPS methodology.

Broken efficient boiler and electric storage heater repair and replacement uplifts

289. As set out in chapter 3, we propose to allow a limited amount of broken efficient boiler and ESH repairs and replacements to take place through ECO4. Unlike, for example, the installation of an insulation measure, repairs and replacements of broken efficient boilers and ESHs would not result in sufficient energy efficiency improvements for them to receive scores based on SAP improvements. These measures would therefore require uplifts to the final score to incentivise their delivery. Without an uplift, fuel poor households without working heating systems could be left without support.
290. Our preference is for broken heating repairs and replacements to receive fixed rate uplifts rather than a percentage uplift, as fixed rate uplifts are likely to be more proportionate to the associated delivery costs, given they are unlikely to fluctuate significantly across homes. Fixed rate uplifts are also likely to make smaller homes more attractive, as the fixed uplift is a proportionately larger share of the score for retrofits with smaller scores.
291. As such, we intend to apply a fixed score uplift based on the estimated cost of replacing heating systems converted into scores using the modelled score cost. For a broken efficient boiler replacement, the expected cost is around £2,500, therefore we propose an uplift of around £60 annual bill savings for all broken efficient boiler replacements (this figure is subject to change depending on the final £ per annual bill saving).
292. For broken ESH, replaced with a high heat retention storage heater, the expected cost is around £715, therefore we propose an uplift of ~£16 annual bill savings per ESH replaced in a property (this figure is subject to change

depending on the final £ per annual bill saving). ESH replacement uplifts would be applied consistently to all new ESH so that more inefficient replacements are incentivised over like-for-like replacements. We will review the level of uplift alongside the PPS methodology implemented by Ofgem.

293. For heating repairs, we intend to apply uplifts based on the expected costs of repairing boilers and ESHs respectively to ensure repairs are properly incentivised over replacements (see chapter 3 for more information on heating repairs). However, we require additional information on the costs of ESH and boiler repairs to set these uplifts.

294. We also intend to remove the current uplifts for inefficient heating system replacements with insulation and switching broken fossil fuel heating systems with renewable heating given these measures would have associated SAP improvements.

Consultation Question

65.	Do you agree with our methodology for applying innovation uplifts relative to the expected savings of a particular innovation measure type?
66.	Do you agree with our proposal to provide a fixed score uplift of ~£60 annual bill savings for all broken boiler replacements and ~£16 annual bill savings for each broken ESH replacement? Please provide information on the cost of boiler and ESH repairs to help inform the level of uplift required for heating repairs relative to replacements.

Hard-to-treat homes

295. 'Hard-to-treat' (HTT) homes are those requiring, for example, remedial work to rectify faults, such as cracks in the building fabric or damp issues, ahead of energy efficiency measure installation.

296. We recognise that providing greater support to the worst performing homes raises the likelihood of encountering HTT issues and without an incentive for these issues to be rectified through the scheme, these homes may be left untreated.

297. The English Housing Survey estimates that between 10-20% of band E, F and G homes have HTT issues. However, anecdotal evidence suggests it is up to a third of ECO3-eligible homes.

298. Given the wide-ranging costs associated with rectifying them, it would not be appropriate to include a fixed HTT cost within the relevant ECO measure cost assumptions. Similarly, some HTT issues may not be clearly associated with one measure.
299. As such, for ECO4, we propose to allow HTT uplifts to be claimed for E, F and G homes. As band D homes will require fewer improvements overall to reach band C, we do not intend to allow HTT uplifts for these homes. As landlords are generally responsible for rectifying HTT issues in their properties, we do not intend for PRS or social housing to be eligible for HTT uplifts.
300. These uplifts aim to cover the cost of rectifying HTT issues that are needed for measures to be installed and would apply to the total HTT spend in a property so that only one HTT uplift could apply per retrofit. We also propose that any uplift for HTT costs is capped at £1000 of HTT spend to maintain a focus on the most cost-effective homes. We expect the costs of rectifying HTT issues in most properties to fall below this cap.
301. We have based this cost cap on cost data collected from the ECO supply chain and engagement with industry as well approaches to HTT costs arising under other government schemes, such as the Green Home Grants Voucher Scheme (GHGVS). However, as stated in question 77, we would welcome any further data stakeholders can provide to help inform both the proposed costs ranges set out below, and the per property HTT cost cap.
302. We propose for HTT uplifts to be evidenced, at a minimum, using the PAS 2030:2019 pre-installation whole house assessment⁶⁷. This must include inter alia “identification of the location and severity of any existing construction defects or structural defects or leaks, and of any condensation and/or mould growth in the dwelling”⁶⁸.
303. This pre-installation assessment is a suitable way of documenting any need for a HTT uplift and should be verified by the retrofit co-ordinator⁶⁹ as part of the end-to-end co-ordinator process and lodged in TrustMark’s Data Warehouse.
304. We also propose to require that HTT spend is recorded alongside each issue by the Retrofit Coordinator and recorded in TrustMark’s Data Warehouse.

⁶⁷ Defined in PAS2030:2019, paragraph 3.24, as a “survey, inspection and assessment of a building to collate information for a retrofit design”.

⁶⁸ PAS 2035:2019, paragraph 8.3.1, p 15.

⁶⁹ Retrofit Coordinators are qualified to provide end-to-end project coordination (i.e., from the inception of a retrofit project to handover and beyond, including undertaking basic monitoring and evaluation work), and to identify, assess and manage the technical and process risks associated with domestic retrofit projects

305. We therefore propose that the uplifts should only apply where both the following criteria are met:
- a) HTT issues comprise ‘any existing construction defects, structural defects, leaks, condensation or mould growth in the dwelling’, and are identified and evidenced as such under requirements in PAS 2030:2019, paragraph 8.3.1; **and**
 - b) are reported as “defects that need to be repaired before any retrofit work can proceed”, as required by PAS 2030:2019, paragraph 8.6.3.
306. Additionally, we are considering other forms of evidencing that should be required such as a chartered surveyors’ or structural engineers’ report, and more extensive assessments such as borescope survey for more intrusive issues. We welcome views from stakeholders regarding which instances these should be required as well as the types of work what would fall within scope of paragraph 8.3.1 of PAS2035.
307. Specifically, we are considering whether extraction of defective loft and CWI should fall within the scope of the HTT uplift. Whilst extractions are not an ECO measure, they are tightly regulated under the scheme when followed by an ECO CWI installation. The two main provisions are the need to check for any guarantee that already exists to remedy any issues and the need for a recommendation from a qualified professional for extraction and remediation to validate that there were issues that needed addressing so that extractions are not taking place on well-functioning CWI installations.
308. The gaming risk with unnecessary extractions has increased in recent years, as guarantors and suppliers have been reporting a rise in both the number of extractions and unsatisfactory evidencing that extraction and replacement will provide appropriate remediation at a given property. This is an issue Ofgem will continue to monitor for ECO4 and we welcome views regarding how this could be more effectively monitored through the scheme.
309. Given these risks, we also welcome views on whether the scope of the HTT uplift should include the extraction of these measures where they are in need of replacement.
310. As we recognise that awarding a HTT uplift and evidencing requirements associated are untested, we are also exploring the potential to cap the number of homes that can receive the uplifts. To maintain fairness, this cap would be set relative to each supplier’s obligation. As noted elsewhere, we invite stakeholders to provide us with or point us to any data on the likely costs associated with HTT issues and their likely prevalence in band E, F and G properties.

Hard-to-treat uplift methodology

311. Where HTT issues are rectified, we propose to allow an uplift to be applied as follows:

$$\sqrt{\frac{HTT\ spend = mid\ point\ of\ cost\ category}{cost\ per\ £\ bill\ saving\ of\ improving\ the\ household}}$$

312. We propose for the *HTT spend* to be determined by one of three cost range categories, which the actual cost falls into, to the nearest pound: low (£0-200), medium (£201-500) and high (£501-£1000), with the *HTT spend* based on the mid-point of the relevant cost range category. For example, where the actual cost of two issues is £150, it would fall into the low-cost category (£0-200) and the spend would be £100. Cost ranges apply to all HTT issues that are rectified in a particular property, and therefore only one uplift can be applied per home treated. Where HTT spend is above £1000 in one property, the mid-point of the high category (£501-1000) would still be used, and so the HTT spend would be £751.

313. We recognise that this approach could result in some households with HTT issues missing out on ECO support where the cost of treating those issues is significantly above the mid-point of the category, though these are likely to be few. However, this approach provides targeted support to homes with HTT issues where previously there was none⁷⁰. We have considered basing the uplift on the actual additional HTT cost, however, this approach would increase complexity and risk of price inflation. Furthermore, the use of cost ranges puts an incentive on industry to agree a more economic price beneath the mid-point assumed by the cost category. Cost range categories also reduce the incentive and opportunity for industry parties to game hard-to-treat uplifts.

314. We propose for the *cost per £ of annual bill saving of improving the household* to be based on either the costs modelled in the ECO4 final stage impact assessment or the published energy efficiency statistics⁷¹. Based on current data, we expect this cost to be around £40, which is used in the below example.

315. The following provides an example for calculating the HTT uplift where an installer spends £400 on rectifying hard-to-treat issues in a single property:

$$\sqrt{\frac{HTT\ spend = mid\ point\ of\ relevant\ cost\ category\ (£350.5)}{cost\ per\ £\ bill\ saving\ of\ improving\ the\ household\ (£40)}} = 11.68$$

316. Only one HTT uplift can apply in each household. Where multiple issues are rectified, the aggregate cost of these can inform the HTT spend and subsequent cost.

⁷⁰ Prior phases of ECO covered measure-specific hard-to-treat work, however the definition of hard-to-treat was significantly different to the one proposed for ECO4.

⁷¹ www.gov.uk/government/collections/household-energy-efficiency-national-statistics

Packages with multiple uplifts

317. Some households treated under ECO4 are likely to have multiple uplifts applied. A household could, for example, have an off-gas and ESH repair uplift applied, as well as innovation and hard-to-treat uplifts.

318. We do not intend to limit the number of uplifts that can apply to a package of measures as this would undermine the policy intent of the uplifts themselves. However, to reduce the risk of gaming, the risk of unintended consequences and the average cost (to the scheme) of treating a household, we intend to require that any uplift can only be applied to a pre-uplift value.

319. For example:

- Assume the score for improving an off-gas, low band F to a low band D property with a floor area of less than 50 square metres is 519 before any uplifts are applied⁷².
- If the hard-to-treat uplift added 20 to the base score (519), the off-gas uplift would also be applied to the base score, i.e., 519, not 539.

320. We intend for some uplifts to be awarded mid-retrofit as the work is notified as part of PPSs, specifically, the hard-to-treat, boiler repair and replacement, and ESH repair and replacement uplifts. The value of these uplifts would therefore be deflated until the MR is met in each property. We intend for other uplifts to be awarded once a retrofit has been completed as their value is based on the final package score, these include the off-gas, innovation measure and pay-for-performance uplifts. Uplifts based on the final package score can only be awarded once the final certificate of lodgement has been received by Ofgem.

321. Where uplifts based on the final package score apply in a retrofit that does not meet the MR, these uplifts would be applied to the total deflated PPSs for all the installed measures once the entire project is complete.

⁷² This is an example score and may not match the ECO4 score used in practice for such an improvement.

Table 11: Summary of proposed uplifts for ECO4

Uplift	Limit on uplifts in package	How uplift is applied	Rate/value	Applicable to all Band D-Gs?
Off-gas	1	To package score	35%	Yes
Boiler replacement	1 ⁷³	When measure notified	£60 ABS ⁷⁴	Yes
Boiler repair	1 ⁷⁵	When measure notified	TBC	Yes
ESH replacement	No limit	When measure notified	£16 ABS	Yes
ESH repair	No limit	When measure notified	TBC	Yes
Innovation measure	No limit	To partial project score and/or to package score	25% or 45% of % IM contributes to in package	Yes
Hard-to-treat	1	When measure notified ⁷⁶	Based on cost rectifying all hard-to-treat issues in home	EFGs only
Pay-for-performance	1	TBC	TBC	Yes
LA flex route 4 - bespoke targeting	Likely 1 but TBC	TBC	TBC	TBC

⁷³ Repair uplifts are mutually exclusive with replacement uplifts

⁷⁴ **ABS**: Annual bill savings

⁷⁵ Repair uplifts are mutually exclusive with replacement uplifts

⁷⁶ Though hard-to-treat issues are not necessarily measure specific.

322. The following example uses three of the above uplifts and sets out when these apply and when the score changes from a PPS to a full project score:

- An installer locates an eligible off-gas grid band E property and finds and repairs several hard-to-treat issues before measure installation begins. The uplift is then awarded, based on the high cost category, but the value of this uplift is deflated until the MR is met.
- One insulation measure is installed, for which a deflated PPS is awarded.
- The second measure installed, which is eligible for the innovation measure uplift, however this uplift is not yet applied.
- A third and final measure is installed, which results in the MR being met. The full project score is then awarded, based on the difference in bill expenditure between the starting and finishing SAP rating.
- The deflation rate on the hard-to-treat uplift is removed.
- The off-gas uplift is then applied to the full project score for improving the property, excluding the score for the other two uplifts.
- The innovation measure uplift is then applied to the full project score for improving the property, excluding the other two uplifts.

Consultation Question

67.	Do you agree with our proposal to allow uplifts for hard-to-treat issues for owner-occupied E, F, and G homes only?
68.	Do you agree with our proposed methodology for hard-to-treat uplifts? Please also suggest forms of evidencing for hard-to-treat.
69.	What work should be within scope of the HTT uplift? Should the extraction of defective loft and/or cavity wall insulation be included? If not, how could extraction be monitored more effectively through the scheme?
70.	Should the cost per £ bill savings be based on the final ECO4 IA or from ECO4 published energy efficiency statistics?

Evidencing scores

323. As set out above, we intend to impose a core scoring requirement for the ECO4 scoring methodology to be based on the difference in average annual bill expenditure between the starting and finishing SAP rating of the property with regard given to the property's floor area.

324. As such, suppliers would need to evidence the starting and finishing SAP rating of the properties they treat, as well as the floor area of each property.
325. For the starting SAP rating and floor area, we intend to allow this to be evidenced via any of the following:
- a) a valid pre-installation EPC; or,
 - b) a pre-installation SAP assessment as part of PAS2035.
326. For the property's finishing SAP rating, we propose to allow evidencing via any methodology and/or evidence considered appropriate by Ofgem, which could include a post installation EPC or post installation SAP assessment.
327. As a separate requirement, and to ensure consumers are aware of the overall impact of the improvements made to their home, we are also considering a requirement for all ECO consumers should be provided with a post-installation energy efficiency rating, for example via an EPC or updated MTIP, that must also be recorded in the TrustMark Data Warehouse.
328. We recognise that concerns exist around the accuracy of EPCs, as well as gaming and fraud risks, based on experience in previous schemes. Some reforms have been made that have improved EPC robustness, including use of smart audits. Smart audits can be tailored to gaming risks likely to be encountered in ECO4, e.g., around property floor areas. Additionally, Government has recently published an action plan to further increase the robustness of EPCs⁷⁷.

Consultation Question

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| 71. | Do you agree with our approach for evidencing scores for ECO4? |
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Alternative Methodology Scores

329. Some newer and/or innovative measures are not recognised in SAP and, without intervention, would not be scored through the scheme. Whilst SAP is updated periodically to allow new measures to be included, the next full SAP update will be towards the end of ECO4.

⁷⁷https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/922660/EPC_Action_Plan.pdf

330. SAP's Appendix Q and the Product Characteristics Database (PCDB) offer routes for new measures to acquire SAP recognition between updates. However, for most measures, this requires expensive large-scale field trials to produce the data necessary.
331. Currently under ECO3, where a measure is not recognised in SAP, a supplier can apply for a score via the alternative methodology (AM) mechanism, administered by Ofgem.
332. However, anecdotal evidence suggests that similar to Appendix Q, the data requirements associated with this mechanism can be onerous for manufacturers, and therefore a barrier to new measures entering the scheme.
333. To ensure that the scheme's scoring requirements are not prohibitive of new measures, we propose to continue to allow measures to be scored through the AM route and have a separate score that is compatible with the wider scoring methodology of the scheme.
334. Additionally, we intend for the standard AM route to be accompanied by a new "data light" route. The latter would enable scores to be produced using a reduced amount of data than through the standard AM route⁷⁸, while still being robust enough to form the basis of an ECO score.
335. Given that suppliers sponsoring these measures would need to provide evidence that demonstrates that they result in a home heating cost reduction, we propose for all AM-scored measures (including "data light" scores) to contribute towards the MR where they are installed. However, this would not be reflected in the property's SAP rating if they are not recognised in SAP. We understand Ofgem expect to publish a methodology for converting 'data light' scores into an expected SAP increase, in order for AMs to count towards the MR, as part of their scoring consultation
336. Where any data light measure is installed in a package and a partial project score awarded, we intend for the deflation rate to apply to the 'data light' score, as is the case for all other measures in that package, until the MR has been met.
337. By allowing data light scores to be produced through this route, we recognise the risk that scores could be less accurate than with the standard AM approach. We therefore propose that, across the scheme, no more than 5,000 of each 'data light' measure can be delivered per year. We intend for this to be distributed across suppliers based on the size of their obligation. Additionally, we intend for

⁷⁸ Under ECO3, where it is not possible to score a measure using SAP / RdSAP (in the case of DHS measures), or deemed scores (in the case of non-DHS measures), a supplier may apply to Ofgem for approval of an 'alternative methodology'. More information is available at: <https://www.ofgem.gov.uk/publications-and-updates/eco3-alternative-methodologies>

Ofgem to have the ability to review and revise scores if, for example, new evidence is provided that may cause the score to be increased or decreased. However, we recognise the need to balance any increase in administrative burden alongside the desire for scores to be based on limited data. Where Ofgem updates a score for a data light measures, Ofgem would not change scores retrospectively for delivered measures.

338. To ensure that data light measures are subject to high installation standards, we propose to require that these measures are delivered in accordance with appropriate standards and consumer protection requirements and that measures are supported by an appropriate Trustmark-licensed Scheme Provider adhering to the TrustMark Framework, and also included in PAS2035 and any other relevant standards such as PAS2030 and MCS where possible.

339. Measures scored via the AM mechanism in ECO4, whether using the existing route or the proposed 'data light' route, can also apply for an IM uplift after any AM application has been approved.

Consultation Question

72.	Do you agree with our proposal to allow alternative methodology scores to be produced for measures that are not recognised in SAP?
73.	Do you agree with our proposal for all alternative methodology scores to count towards the minimum requirement?

ECO4 Cost Assumptions

340. We are looking to develop a better understanding of costs incurred installing measures.

341. Specifically, we are looking to develop a better understanding of third-party contributions towards the installation of solid wall insulation. We are also looking to better account for the costs incurred which do not necessarily contribute directly towards delivering energy efficiency improvements, but which are needed to ensure such measures can be installed in a property.

342. These costs include work that is required to comply with PAS 2035:2019, such as implementing appropriate ventilation; or carrying out remedial work before measures can be installed (in the case of hard-to-treat properties); and ancillary services, such as replacing flooring or carpets after floor insulation is installed.

343. We believe that the TrustMark Data Warehouse would be an appropriate place to store this kind of information. We obtained some data from suppliers, installers, and local authorities to inform our modelling for ECO4. Further information on costs could support a more robust cost dataset on which to model ECO4 and ensure that costs are more accurately reflected in scheme design. Although we cannot account for all cost scenarios, we intend to use this consultation to gain a better understanding of delivery costs.

Solid Wall Insulation

344. As of December 2020, around 90% of solid wall homes in GB need SWI⁷⁹. Our analysis suggests that ~37% of households treated in ECO4 are likely to receive SWI. As such, we recognise the importance of quantifying the costs of delivering this measure accurately.

345. In ECO3, our assumption for third-party contributions for SWI was 75%. Evidence suggests this contribution is principally made by local authorities and devolved administrations. However, as the proportion of ECO eligible E, F and G households where SWI is needed will be far higher from 2022, relative to ECO3, and there may be fewer instances in England and Wales of regional co-funding, we propose to reduce the assumed third-party contribution for SWI to a 0% contribution from 2022.

PAS 2035:2019 Ventilation Requirements

346. As we move to deeper retrofit, we recognise that the need for adequate ventilation will become even more important. Currently, the cost assumptions for ventilation are captured in the ECO3 Improving Customer Protection IA⁸⁰ as a combined cost of complying with PAS. The assumed impact to delivery costs from this amounted to £59 million, or an average of £350 per measure. Anecdotal evidence from the supply chain suggests that the current cost assumptions for PAS compliance may not always be sufficient to cover the costs associated with installing adequate ventilation, as these can vary substantially, thus resulting in some properties remaining untreated.

347. We are therefore working with industry groups to gather further information on potential ventilation costs. Table 12 below details an aggregated/averaged summary of data from some installers of potential associated cost ranges for different acceptable ventilation systems under PAS according to the size of property.

⁷⁹ Household Energy Statistics 2020 Report: <https://www.gov.uk/government/statistics/household-energy-efficiency-statistics-detailed-report-2020>

⁸⁰ www.assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/842280/ECO3_Improving_Consumer_Protection_Final_Stage_Impact_Assessment.pdf

Table 12: Typical costs for supply and installation of ventilation (including design and commissioning)

Ventilation Type and Cost

	2 wet rooms (WR) + 2 dry rooms (DR)	3 WR + 2 DR	2 WR + 3 DR	3 WR + 3 DR	2 WR + 4 DR	3 WR + 4 DR	2 WR + 5 DR	3 WR + 5DR
Extract fans only	£320-650	£450-900	£320-650	£450-900	£320-650	£450-900	£320-650	£450-900
Background vents only	£60	£60	£90	£90	£120	£120	£150	£150
Extract fans + background vents	£380-710	£510-960	£410-740	£540-990	£440-770	£570-1020	£470-800	£600-1050
PIV ⁸¹ only	£625	£625	£625	£625	£625	£625	£625	£625
PIV + background vents	£685	£685	£715	£715	£745	£745	£775	£775
MEV only (centralised)	£775	£975	£775	£975	£775	£975	£775	£975
MEV + background vents	£835	£1035	£865	£1065	£895	£1095	£925	£1125
Whole house MVHR	£2200-3000	£2600-3300	£2600-3300	£3000-3500	£3000-3500	£3300-4000	£3300-4000	£3300-4000
Undercut of internal doors	£100-120	£125-150	£125-150	£150-180	£150-180	£175-210	£175-210	£200-240

Ventilation Type	Cost
AFHR ⁸² in a single room	£650
SRHRV in a single room	£550

348. We would welcome views on whether these costs are reflective of those incurred complying with PAS ventilation requirements under PAS 2035:2019 and PAS 2030:2019 and would welcome any further information stakeholders can provide regarding the accuracy of these costs in practice.

⁸¹ **PIV**: Positive Input Ventilation; **MEV**: Mechanical Extract Ventilation; **MVHR**: Mechanical Ventilation with Heat Recovery

⁸² **AFHR**: Alternate Flow with Heat Retention; **SRHRV**: Single Room Heat Recovery Ventilators

Hard-to-Treat Cost Boundaries

349. As set out above, we intend to allow hard-to-treat costs to be recovered under ECO4 through a cost specific uplift which would be capped at certain boundaries. At present, we have based this cost cap on similar approaches implemented under other government schemes, such as the Green Home Grants Voucher Scheme (GHGVS), cost data collected from the ECO supply chain and engagement with installers.

350. However, as stated in question 77, we would welcome any further data stakeholders can provide through this consultation to help inform the hard-to-treat cost ranges proposed. We also welcome any data stakeholders can provide on the expected prevalence of hard-to-treat issues in E F and G homes.

Costs of Ancillary Services

351. As consumer participation through the scheme is voluntary, we recognise the need to take additional steps to ensure that consumers are incentivised and supported to have multiple measures installed in their homes.

352. Currently, additional costs associated with ancillary services such as replacing flooring or carpets after floor insulation is installed, or redecorating interiors after internal wall insulation is installed, are not captured through the ECO cost assumptions. As part of considerations around the PAS retrofit design and MTIP, we anticipate that consumers are offered less intrusive measures where possible, provided the MR is met. Otherwise, in circumstances where a property is only fit for certain types of measures, we want to ensure that we can facilitate their installation through the scheme.

353. Given the proposal for a MR, we want to explore whether we should capture the estimated costs of ancillary services for insulation measures in the delivery cost assumptions in our final stage Impact Assessment. If required, we intend to update our approach to ensure there is sufficient support for these services.

354. We consider that these ancillary services could be, at a minimum:

- Relaying flooring and carpets after floor insulation measures.
- Redecoration, both internal and external walls after insulating, for example, interiors after internal wall insulation or fascias, soffits and guttering after insulation of external walls.

355. We have considered providing support for other services such as loft clearance to deliver loft insulation, however practically we do not think this service could be delivered through ECO4 due to risks associated with damaging consumers' property.

356. The purpose of collecting this information on costs is to build a more robust cost dataset on which to model ECO4 and ensure that these services are more

accurately reflected where needed, thus improving scheme deliverability.

Consultation Question

74.	<p>Solid wall insulation: (a) Do you agree with our assumption of a 0% third party contribution for solid wall insulation (SWI)?</p> <p>(b) Please provide BEIS with any information on third party contributions towards SWI supporting your response.</p>
75.	<p>PAS2035:2019: (a) Are the current cost assumptions for ventilation outlined in Table 12 reflective of the costs of complying with ventilation requirements set out in PAS 2035?</p> <p>(b) Please provide BEIS with any information on the cost ranges associated with PAS ventilation compliance, and any further PAS related considerations, that may be applicable.</p>
76.	<p>Ancillary work: (a) Should the costs of delivering specific ancillary services related to insulation, be captured through the delivery cost assumptions in the ECO4 final stage Impact Assessment?</p> <p>(b) Please provide BEIS with any information on the cost ranges associated with each ancillary measure in paragraph 354, and any further common services that may be applicable.</p>
77.	<p>Data Warehouse and Hard-to-treat: (a) How feasible would it be for all delivery costs incurred as a result of the installation of measures to be lodged and stored within TrustMark's Data Warehouse, and how do you think all measures costs should be recorded, e.g., to ensure any gaming risks are mitigated where possible?</p> <p>(b) Please provide BEIS with any further evidence of the costs associated with remediation of hard-to-treat issues, as required in 8.3.1, bullet three, of PAS 2035,⁸³ as well as evidence of the prevalence of these issues in the housing stock.</p>

⁸³ 8.3.1, bullet three, states that parties must identify the "location and severity of any existing construction defects or structural defects or leaks, and of any condensation and/or mould growth in the dwelling".

Chapter 5: ECO4 in Scotland

This chapter outlines proposals on how the scheme will be delivered in Scotland. The Scotland Act 2016

357. The current ECO scheme is a GB wide scheme. On 1st December 2017 some of the powers to make ECO Orders were transferred to Scottish Ministers by the Scotland Act 2016. These powers provide for Scottish Ministers to decide the eligibility criteria for ECO in Scotland and the types of measures this can be used for. Many aspects of ECO remain reserved to the Secretary of State, including the setting of the scheme target and the apportionment of the scheme target between suppliers. Scottish Ministers cannot design a separate scheme in Scotland without the consent of the Secretary of State.

358. The Secretary of State can continue to make ECO Orders that are GB wide, by obtaining the consent of Scottish Ministers. As such, the proposals in this consultation apply to England, Wales and Scotland. To enable the Scottish Government to assess responses to this consultation and determine their future approach, we will share responses with the Scottish Government, subject to confidentiality requests.

Separate rules for ECO in Scotland

359. The proposals in this consultation are set out on the basis that a single ECO scheme will continue to apply across GB. If Scottish Ministers decide to make separate rules for ECO in Scotland, the following aspects of the ECO scheme would be for their determination:

- the rules on measure eligibility and scoring in Scotland;
- the rules on household eligibility in Scotland;
- early delivery of measures in Scotland;
- sub-targets and caps applying to measures in Scotland; and
- transfers of measures in Scotland between suppliers.

360. There would also be proposals that would continue to apply on a GB wide basis as these aspects of ECO are reserved to the Secretary of State:

- the proposal to have a 100% ECO4 scheme and not to have a carbon emissions reduction target, and the size of that target;
- phases of the obligation;
- supplier thresholds and the supplier allowance; and

- apportionment of the ECO4 target between Scotland and the rest of GB.

361. If separate rules are made for ECO in Scotland, we would expect to apportion the overall ECO4 target between Scotland and the rest of GB, unless we were confident that the difference in ECO rules between Scotland and the rest of GB would not lead to a disproportionate share of the ECO benefits or costs falling in one part of GB. An apportioned target would mean that suppliers would have to meet a specified proportion of their target through measures installed in Scotland, and the rest of their target would have to be met through measures installed in England and Wales. We propose that this would be set in line with the apportionment of the overall ECO4 target, so each supplier would have to meet the same specified proportion of their total obligations through measures installed in Scotland.

Apportionment method

362. While we do not apportion the targets or a share of the spending envelope across the different parts of GB for the current scheme, our analysis shows under ECO3 to the end of March 2021, 682,984 measures were delivered across GB. Of which, 70,827 were delivered in Scotland, which represents 10.4% of all ECO3 measures, with an average of 12% since ECO1.

363. As a market-based mechanism, the supplier obligation is expressed in terms of energy efficiency outcomes (i.e., Annual Bill Savings in ECO4) and not as expenditure. Achieving these targets imposes costs on the obligated companies that are passed onto domestic consumers, although the energy bills of households that receive ECO measures will be reduced over time from what they would otherwise have been.

364. As apportionment of the overall ECO4 target could affect competition between suppliers and the costs of the obligation passed on to consumers' bills in each region, any methodology for calculating the split of the cost envelope needs to:

- be fair and proportionate;
- prevent market distortion; and
- use data for the calculation that is robust, comparable and transparent.

365. We have tested different metrics according to the above criteria. These included the number of customer accounts, the amount of electricity and gas supplied (either individually or including both), and the remaining technical potential for delivering measures in each nation of GB. We consider the following metric provides the fullest alignment with the above criteria, namely, the total amount of gas and electricity supplied in each region, with an equal weighting for

each fuel. The formula for this is:

$$\left(50\% \times \frac{\text{Total Gas Sales Volume in Scotland}}{\text{Total Gas Sales Volume in GB}} \right) + \left(50\% \times \frac{\text{Total Electricity Sales Volume in Scotland}}{\text{Total Electricity Sales Volume in GB}} \right)$$

366. We propose that the suggested calculation is based on an average taken from the last three years of published data on domestic electricity and gas consumption. This data is published by BEIS in December for the preceding year⁸⁴ (e.g., data for 2021 will be available in December 2022).

367. This methodology also reflects how the obligation for suppliers is currently calculated under ECO, although as noted above, the obligation is not at present apportioned between Scotland and the rest of GB. Based on current figures, the share of ECO spending apportioned to Scotland would equate to **9.11% of the £1 billion per annum total ECO cost**. The ECO4 target would then be apportioned in a way that equates to the share of ECO spending that has been apportioned to Scotland.

368. If the targets are apportioned, Scottish Ministers will have a duty to set rules for ECO that they consider will keep it within the share of ECO spending apportioned to Scotland.

Consultation Question

78.	In the event that separate rules are made for ECO in Scotland, do you agree with the proposal to: (a) apportion the cost envelope between England & Wales and Scotland using a methodology based on the total amount of gas and electricity supplied in each region, with an equal weighting for each fuel? (b) that the calculation is based on an average taken from the last three years of domestic gas and electricity consumption data published annually in December by BEIS?
79.	In the event that separate rules are made for ECO in Scotland, do you agree with the proposal to apportion an individual supplier's targets between Scotland and the rest of GB?

⁸⁴ BEIS electricity estimates:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/946419/Sub-national_electricity_consumption_statistics_2005-2019.xlsx. BEIS gas estimates:

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/946433/Sub-national_gas_consumption_statistics_2005-2019.xlsx

Chapter 6: Delivery and Administration

This chapter sets out our proposals for the delivery and administration of ECO4.

Project completion timings

369. Under the ECO 1 and 2 Carbon Emission Reduction Obligation (CERO), secondary heating measures were required to be installed within six months of a primary measure. This requirement was mirrored for ECO3 primary and secondary measures, to allow sufficient time to install both the insulation and heating measures. As dual measure delivery was uncommon before ECO3, a six-month time period was considered sufficient to allow multiple installers to co-ordinate.
370. As ECO4 moves to a more multi-measure approach, we recognise that a greater proportion of projects will take longer to complete. However, longer project timelines are less welcome for households and increase the probability of changing circumstances, and therefore the risk that projects are not completed. Additionally, as we propose for the final ECO score to be awarded once a project is complete, longer projects could result in payment delays for installers.
371. To mitigate these risks, we want to ensure the timely completion of projects. We therefore propose to require that all individual property projects must be complete no more than three months from the installation of the first measure, excluding district heating systems, given their complexity. This time period is based on industry feedback and data on multiple measure delivery.
372. Initial analysis of ECO3 notification data indicates that the majority of properties that had multiple measures installed under ECO3 had the measures installed within a month. Furthermore, most of these installations reported the same completion date.
373. Stakeholder evidence also confirms that the majority of ECO measures can be installed within 1-2 days, whilst the reported average installation time for two measures varies between 1-45 days.
374. Ultimately, we believe that the three-month time limit will be adequate for ECO4, particularly as enhanced coordination within the supply chain will be necessary.
375. We recognise that more complex measures such as solid wall insulation (SWI), room-in-roof insulation (RIRI) and ground source heat pumps will take

longer to complete than other less complex measures, and these measures may require extensive preparatory work.

376. Recognising this, the three-month time limit would begin from the completion of the first measure, and we would therefore expect the installation of measures to be co-ordinated to ensure that they are installed together where possible, and that any preparatory work is carried out before or during the installation of the first measure, while being in line with the PAS2035 retrofit design.

377. We also recognise that factors outside of industry's control could mean that some projects require longer than 3 months. Therefore, we intend to allow an extension of 3 months to be permitted in circumstances where delays occur due to reasons that could not have reasonably been foreseen at the start of the project.

378. These could include issues such as:

- hard to treat issues arising mid-project
- prolonged extreme weather conditions

379. However, we do not intend to account for delays that could have been foreseen and therefore avoided, to be eligible for extensions. For example, issues with the availability of installers can be mitigated through improved coordination prior to the installation of the first measure. We intend for the final decision to grant any extension to rest with Ofgem.

380. Projects that exceed the three-month limit without approved extensions would receive deflated partial project scores for the delayed measures (see partial project scores in Chapter 4 for further detail). However, any new measures delivered to replace any rejected measures in a package for the MR to be met would not be required to meet the three-month project completion time limit.

Consultation Question

80.	Do you agree with setting a project completion time of three months, from the completion of the first measure in any package other than for DHS? We welcome views regarding what timescale should be permitted for DHS installations.
81.	Do you agree with our proposal to allow an extension of three months to be permitted by Ofgem in certain circumstances?
82.	Do you agree with our proposal to award deflated partial project scores for measures delivered after the three-month time period has passed?

Measure notifications and extensions

381. Under the current scheme, all measures must be notified to Ofgem by the end of the month following the month the measure was completed. From 1 January 2020, all measures were also required to be lodged in the TrustMark data warehouse and issued with a Certificate of Lodgement to demonstrate compliance with TrustMark requirements.
382. We intend to maintain these requirements for ECO4 to allow flexibility while ensuring that suppliers report progress towards their obligation promptly and that partial project scores (PPS) for individual measures are received in a timely manner, encouraging more frequent payment to installers.
383. Monthly notification deadlines also enable Ofgem and industry to regularly monitor how the scheme is operating.
384. We therefore propose that suppliers must continue to notify all measures no more than one month after the month the measure was completed within each project. The measures notified must also align with the measure types and order of installation set out in the PAS retrofit design and MTIP.
385. We intend to continue to allow up to 5% of measures installed in a particular calendar month, and notified on time, to receive an automatic extension of three months to the notification deadline. We propose for Ofgem to retain overall discretion to determine whether an extension request over and above the 5% limit would be acceptable. This will include determining a 'reasonable excuse' for failing to notify a measure by the notification deadline.
386. If the ECO4 Order is not brought into force on 1 April 2022 and there is a gap between schemes we propose for any "early delivery" to be notified by the end of the second month immediately following the month in which the ECO4 Order comes into force. This is to reduce the administrative burden on Ofgem and suppliers who could receive and submit a significant number of notifications respectively, once the ECO4 Order comes into force.
387. We intend to work with Ofgem and TrustMark to ensure that partial project lodgement of individual measures can enable PPSs to be awarded by Ofgem in a timely manner. A final Certificate of Lodgement would be required for the full project score to be awarded after the project is completed and notified.

Consultation Question

83. Do you agree with the proposals on measure notifications and extensions?

Obligation phases

388. ECO3 is divided into obligation phases, each typically one year long, so that suppliers' obligations are adjusted according to their market share. Suppliers' obligations are calculated and notified to suppliers before the start of each phase. Suppliers will continue to have until the end of the scheme to deliver the sum of their obligations.

389. ECO4 will run to 31 March 2026. We propose that it would have four annual phases (see Table 12 below). We are proposing to retain the existing data collection points, so that suppliers must notify Ofgem of their domestic customer numbers and energy supplied by 1 February prior to the commencement of each phase. However, we propose to amend the date by which suppliers are notified of their obligation, from the last day in February to, on or before 7 March prior to the commencement of the phase, allowing Ofgem more time in lieu of scheme changes. In the event the ECO4 Order does not commence on 1 April 2022, the data collection points for phase 1 would be adjusted to reflect any gap in the scheme commencement date.

Table 12: Proposed Obligation Phases

Phase number	Dates	Length
1	1 April 2022 – 31 March 2023	12 months
2	1 April 2023 – 31 March 2024	12 months
3	1 April 2024 – 31 March 2025	12 months
4	1 April 2025 – 31 March 2026	12 months

Consultation Question

84. Do you agree with (a) the proposed obligation phases for the future scheme; and (b) the proposal to retain the 1 February deadline for suppliers to notify Ofgem, and for suppliers to be notified of their obligation on or before 7 March, prior to the commencement of the next phase?

Trading and Transfers

390. Trading of obligations between suppliers was introduced in April 2017 to simplify scheme administration and reduce delivery costs. This mechanism has continued to allow flexibility for obligated suppliers in how they discharge their ECO obligation. We have seen the use of this mechanism for both the trading of obligations and the transfer of measures.
391. The trading mechanism would likely continue to serve as a useful tool for suppliers to meet their obligations more cost effectively, thereby increasing the economic efficiency of the scheme.
392. The current mechanism allows obligated suppliers to trade obligations between one another or allows suppliers in one group to transfer obligations to one supplier within the group, subject to meeting conditions under article 35(3) of the ECO Order 2018. We propose to continue trading under ECO4 with obligated suppliers being allowed to apply to trade any part of their overall obligation up to six months before the scheme ends, by 30 September 2025, subject to approval by Ofgem.
393. Suppliers may also transfer approved qualifying actions and surplus actions to another obligated supplier if all measures that are linked in a project are transferred together. Qualifying actions include a package of measures associated with a full project score or a package of measures associated with a partial project score. All measures in each project would need to be transferred together as a package. We propose that obligated suppliers be allowed to apply to transfer qualifying measures at any time before 30 June 2026.
394. We propose to give Ofgem the power to reject an application for the transfer of qualifying actions if there is significant risk that the transfer would adversely affect the ability of the supplier transferring the qualifying actions to deliver its obligations.

Consultation Question

85.	Do you agree with the proposal to retain the mechanism for the trading of obligations and setting the deadline for applications as 30 September 2025?
86.	Do you agree with the proposal to retain the mechanism for the transfer of qualifying actions and setting the deadline for applications as 30 June 2026?

87.	Do you agree that an application for the transfer of qualifying actions should not be approved, if there is significant risk that the applicant supplier would be unable to deliver its obligation?
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Chapter 7: Quality and Standards

This chapter outlines our proposals for measure guarantees and standards under ECO4.

Guarantees

395. TrustMark is currently delivering the Government-endorsed quality framework for energy efficiency measures that was launched in October 2018. The TrustMark Framework Operating Requirements and Code of Conduct aim to provide an improved and comprehensive consumer protection process for energy efficiency measures.
396. From 1 January 2020, we introduced a requirement for all ECO installers to be TrustMark registered (subject to certain exemptions⁸⁵), to ensure that ECO households benefit from the improved consumer protection.
397. TrustMark has confirmed an intention to implement changes to the current Framework requirements later in 2021, such that all ECO measures will need to be accompanied by a TrustMark-approved guarantee of at least two years, rather than the workmanship or manufacturer guarantees allowed currently. We support this decision given it will result in more robust guarantee requirements for measures and increased protection for consumers.
398. For ECO4, we want to ensure that guarantee requirements are strengthened further where possible. Technical monitoring data shows that for insulation other than solid wall insulation (SWI) and room in roof insulation (RIRI) measures, loft insulation has the highest failure rate under the scheme. However, loft insulation is only required to be accompanied by a two-year guarantee, compared to 25 years for more complex measures like SWI and RIRI. We recognise that loft insulation is more prone to householder interference and damage than most other insulation measures, due to the way lofts are commonly used. However, we also understand that there are a number of providers offering loft insulation guarantees of six to ten years.
399. As such, we intend to work with TrustMark and industry to explore potential solutions to reduce the rate of technical monitoring fails for this measure and potentially strengthen consumer protections via associated guarantee requirements.

⁸⁵ District Heating System (DHS) measures fall under these exemptions.

400. At 10.41%, boilers currently have the highest duplicate rates across all ECO3 measures, and a contributing factor may be the two-year guarantee duration, after which, the boiler could be replaced through the scheme. Although the proposals regarding boiler replacements and repairs as set out in Chapter 3 should reduce the likelihood of boilers being replaced under ECO4, we also intend to work with TrustMark to explore the potential for boilers to have guarantee duration requirements increased where possible, noting how this might impact scheme costs and delivery.
401. We also recognise that the current scope of a two-year repair guarantee to cover the entire heating component (for example the entire boiler) could be a contributing factor to whether the heating system can be “economically repaired” through the scheme; for example, if they make repairs more expensive (thereby making replacements relatively more attractive) or place undue risk on installers respectively.
402. Therefore, we propose to work with TrustMark to review the scope of cover required for repair guarantees, ensuring these are fit for purpose and in line with industry-wide standard practice for heating repairs. This is intended to incentivise repairs further, removing any potential barriers for delivery, while also reducing the number of boiler duplicates and maintaining sufficient consumer protection requirements.
403. We also intend to work with TrustMark to explore the potential for all ECO guarantee requirements to be evidenced entirely via TrustMark registration and compliance, rather than specifically referenced in ECO legislation. However, to implement this change, we recognise that BEIS and TrustMark will need to agree a process that ensures any changes to the TrustMark Framework Operating requirements, and any ECO guarantee requirements, are first consulted on, allowing BEIS and wider industry the opportunity to challenge any changes, ahead of them being implemented.
404. In Chapter 4, we set out our approach to removing lifetimes across our ECO4 scoring approach. However, we recognise the benefits of benchmarking guarantee durations against the expected lifetime of measures, and we therefore intend to continue to require that all ECO measures must have an associated lifetime to be delivered through the scheme.
405. However, given the proposed removal of lifetimes within the scoring framework, guarantee requirements for solid wall insulation (SWI), cavity wall insulation (CWI), room in roof insulation (RIRI), park home insulation (PHI) and underfloor insulation (UFI) would no longer have a lifetime specified in the ECO Order. Any measure that does not meet relevant guarantee requirements, whether enforced via the ECO Order or via TrustMark, would not be considered a qualifying ECO measure.

406. Government also aims to introduce GB-wide Heat Network Regulations⁸⁶ to set consumer standards and give equivalent statutory rights for heat network customers as those already required by other utilities. However, as this is expected to come into force mid-way through ECO4 we intend to continue to require DHS installers to be registered with Heat Trust or demonstrate compliance with equivalent consumer protection standards across the entire ECO4 scheme.

Consultation Question

88.	What actions do you consider appropriate to reduce the level of technical monitoring (TM) fails for loft insulation?
89.	Should the guarantee durations for loft insulation and boilers be increased and to what duration?
90.	What should be required for heating repair guarantee scope and length to ensure that these measures can be delivered through the scheme with appropriate consumer protection?
91.	If appropriate safeguards are put in place to prevent ECO guarantee requirements being changed without sufficient consultation with BEIS and wider industry, should all ECO guarantee requirements be mandated via TrustMark registration and compliance, rather than through ECO regulations?

The Publicly Available Specification (PAS)

407. The impact of poor-quality installations can create problems with building integrity; exacerbate issues such as damp and mould leading to health problems; and require expensive remedial work. The PAS2035 and PAS2030 standards focus on a holistic approach to retrofits, that accounts for considerations such as:

- a. the wellbeing of the occupants;
- b. a fabric-first methodology; and
- c. the improved functionality and energy efficiency of buildings.

408. This approach to retrofitting of homes ensures better outcomes in terms of quality and consumer satisfaction as it minimises the need for revisits and costly

⁸⁶ <https://www.gov.uk/government/consultations/heat-networks-building-a-market-framework>

remedial works. Moreover, they provide an ideal foundation for the installation of measures under ECO4, given the move towards to deeper, whole-house retrofits.

409. From 1 July 2021, all Registered Businesses delivering energy efficiency measures within the scope of the Publicly Available Specification (PAS) 2035:2019 and PAS 2030:2019 must be certified as compliant with PAS 2030:2019 by a PAS 2031:2019 accredited Scheme Provider/certification body and comply, and be able to evidence compliance, with both PAS 2035:2019 and PAS 2030:2019. TrustMark registration and compliance is the route for demonstrating compliance with the most up to date and relevant Publicly Available Specification (PAS) standards.
410. We propose to continue to require that all measures that are referenced in PAS must be compliant with the latest PAS specifications and installed by a PAS-certified installer. This would help ensure that ECO4 measures are delivered in accordance with consumers' expectations, while benefiting from robust installation standards and the whole-house, end-to-end coordination of projects via the requirements for retrofit co-ordinators.
411. We recognise that not all measures eligible through ECO are referenced in PAS2030. For those measures that are within the scope of the Microgeneration Certification Scheme (MCS), we expect that the installation of those systems shall be carried out in accordance with the applicable MCS standard as well as PAS2035.
412. Where any new measures are delivered through the scheme, we intend to require that them to be recognised within the TrustMark Framework and PAS standards where possible. Where a measure falls outside of the scope of TrustMark, PAS and MCS, we intend to continue to mandate a suitable equivalent standard of installation and consumer protection.
413. The PAS2030 and 2035 specifications are reviewed periodically, (usually every two years). Therefore, new measures not currently included in PAS will have regular opportunities to be included during these reviews where possible. BEIS and BSI are currently evaluating this process to determine how it can be expedited, such that reviews, amendments and addition of new measures can be performed on more of a continuous basis.
414. We recognise that these timeframes can cause issues with mandating compliance with the specifications through the ECO Order, particularly as we move into a four-year scheme. Given these periodic reviews, we would like to gather views on whether this compliance requirement could be enforced entirely via TrustMark registration and compliance, and therefore not referenced in the ECO Order.

415. Mandating PAS compliance in this way would remove some of the supplier and Ofgem administrative burden for monitoring and evidencing compliance with PAS and would prevent mid-scheme legislative changes following PAS updates. However, we recognise that BEIS and TrustMark will need to agree a process that ensures any changes to the TrustMark Framework Operating Requirements, and therefore requirements for ECO PAS compliance, are first subject to consultation, to allow both BEIS and wider industry the opportunity to challenge any changes, ahead of them being implemented.

Consultation Question

92.	Do you agree that all measures (excluding DHS) referenced in the latest versions of PAS2035 and PAS2030 should be installed in accordance with these standards and delivered by a PAS-certified installer?
93.	Should this requirement be enforced entirely via TrustMark registration and compliance, and therefore not referenced in ECO legislation for ECO4?

Chapter 8: Innovation

This chapter outlines our proposals for the ECO4 Innovation mechanism.

Innovation Measures

416. The current Innovation Measure (IM) uplift provides support for measures that have not previously been delivered under the scheme and can demonstrate an improvement on existing ECO measures. Measures that qualify have a 25% uplift applied to either the existing deemed score for that measure type or, where it is a new measure, the new deemed score or alternative methodology score. This was introduced under ECO3 to incentivise obligated suppliers to use a greater diversity of measures.
417. Supporting innovation in this way can help improve the deliverability of ECO and contribute to transforming the energy efficiency market by supporting newer and innovative products. We recognise that as ECO scores are quantified in bill savings, other benefits, such as installation practices, cannot be rewarded other than through the IM uplift. We therefore intend to maintain the IM uplift mechanism for ECO4 and continue to cap it at no more than 10% of a supplier's obligation.
418. However as of May 2021, only 3,289 IMs have been notified since the start of the scheme, from a total of 707,329 ECO3 measures, equating to approximately 0.46% of delivery. Of the 15 approved measures, only one has seen significant levels of delivery, with higher-cost SWI products seldom being deployed.
419. Anecdotal stakeholder evidence indicates that one of the main barriers to IM delivery is the blanket 25% uplift level, which may not fully support the delivery of more costly measures with greater benefits.
420. To address the low level of IM uptake, and enhance the mechanism's effectiveness at achieving its objectives, we intend to introduce several reforms.

ECO4 reforms

421. For ECO4 we intend for the current "Standard" 25% uplift to be awarded to measures that demonstrate a moderate improvement against their standard counterparts, while a new "High" 45% uplift would be awarded to measures that demonstrate a substantial improvement against their standard counterparts. This differentiation between the two uplifts would be decided by the Technical Advisory Panel (TAP) based on expanded criteria.

422. The current criteria as set out in the BEIS innovation guidance includes:

- Increased bill savings,
- Ease or speed of installation,
- Potential for reduced cost of installation,
- Increase in the range or number of houses installations can take place in,
- Reduced disruption to the householder.

423. We propose to expand these criteria to include:

- Increased consumer care, and
- Overall environmental impact.

424. The inclusion of consumer care and environmental impact are intended to encourage a wider range of applications, with additional benefits that are not currently captured.

425. Rewarding improved consumer care could also help strengthen consumer confidence in energy efficiency measures and may therefore result in greater uptake. The addition of this criterion is intended to give recognition to products that offer consumer protection, going beyond the requirements set out by TrustMark. This could include products that demonstrate an increased focus on consumer care, for example advice services and/or aftercare.

426. Providing greater support to measures that have low carbon emissions and environmental impacts in the way they are manufactured or installed will also contribute to government's wider net zero target. This could also encourage suppliers to opt for more sustainable insulation products if they meet performance standards. For example, increasing the amount of UK timber used in ECO would reduce the embedded emissions of products and help increase the amount of locked-in carbon in our homes and buildings, thereby reducing carbon emissions.

427. Some such products will be new to market, lack economies of scale and be more expensive. Encouraging their deployment would help reduce their costs over time, enabling them to compete with established measures.

428. As such, we intend to allow delivery costs (the total costs associated with installing an IM) to be assessed as a supplementary consideration in addition to the criteria above. We intend for the TAP to assess whether more support may be needed for the product to be deployed relative to the benefits. Therefore, the current ECO3 criteria of 'cost of installation' will be covered by this wider consideration of delivery costs.

429. We will allow all ECO3-approved IMs to either reapply for the new “High” ECO4 IM uplift or to retain their “Standard” ECO3 IM uplift for the duration of ECO4.

Requirement for measures to be materially different

430. Under ECO3, an IM must present sufficient evidence that it is "materially different" in its materials, technology, production methods and installation methods to measures delivered under previous ECO schemes. This requirement is intended to encourage the delivery of new and improved products compared to those previously delivered through earlier schemes.

431. However, suppliers have often faced difficulties in evidencing this requirement since measure notifications are not product specific. Additionally, we do not consider that a small level of delivery through the scheme should represent a barrier to products receiving the IM uplift, if the product meets other IM criteria.

432. As such, we propose to remove the requirement for IMs to be "materially different" from measures delivered through previous schemes for ECO4. Instead, the requirement for IMs to demonstrate a moderate or substantial improvement would be refocused and expanded, using the reformed criteria above. This approach would therefore mean that any product which is defined as having a moderate or substantial improvement compared to other similar systems, that are commonly delivered, can be rewarded with an uplifted score through the scheme, regardless of whether the product has been delivered through ECO previously.

433. To retain the focus on demonstrable improvements to current ECO measures, we propose to no longer allow applications via the alternative methodology (AM) and IM routes simultaneously. If there is not already an existing measure type, applicants can apply for one via the AM/data light route and apply for an IM uplift once the AM application has been approved.

Elevated uplifts for sponsoring suppliers

434. Currently, all suppliers receive the same level of uplift when delivering IMs, regardless of whether they incur the additional time and costs associated with the IM application process. As such, the sponsoring supplier does not receive any additional benefit from completing the application process compared to other suppliers who can later gain from the uplift when delivering the approved IM.

435. As a result, arrangements such as exclusivity clauses between manufacturers and suppliers could be implemented, potentially causing distortions in the market and preventing larger scale deployment of IMs. This lack of incentive to sponsor new products through the IM application process therefore represents additional barriers to IM uptake and delivery.

436. As such, we propose to award an elevated uplift of an additional [2%] to the sponsoring supplier's IM uplift for all installations post-approval. As external factors can prevent the swift launch of IMs into the market, applying a smaller uplift for the entire scheme is likely to be a more effective reward than applying a higher uplift for a set period of time post-approval.

437. This reform is intended to encourage suppliers to pursue IM applications and deploy the IMs at scale once the measure is approved.

Consultation Question

94.	Do you agree with our proposal to retain the Innovation Measure mechanism, which would be capped at 10% of a supplier's obligation?
95.	Do you agree with our proposal to introduce a 'High' level of uplift of 45%, alongside the current 'Standard' 25%, based on a distinction between a moderate improvement and substantial improvement, decided upon by the TAP?
96.	Do you agree with our proposal to expand on the current criteria for determining whether there is an improvement to include environmental impact consumer care, and delivery costs?
97.	Do you agree with our proposal to reward sponsoring suppliers with an increased uplift of 2% after application approval?

Demonstration Actions

438. The Demonstration Action (DA) mechanism was introduced under ECO3 to provide support for the testing of individual measures that had been tested in a laboratory setting and required further testing in a live environment to reach commercialisation.

439. Although not a principle aim of the mechanism, the data collected through the DA could potentially be used to support measures working towards inclusion in Appendix Q of the Standard Assessment Procedure (SAP) and to feed into the development of an ECO deemed score to be deployed under the wider scheme.

440. However, the testing supported through the DA mechanism is not guaranteed to result in measures eventually being delivered through the scheme, and the level of data required to achieve SAP inclusion can often go above and beyond what is needed to demonstrate value for money for a DA project.

441. Out of a total of 35 DA applications, only seven were approved for ECO3, with two of these applicants subsequently withdrawing after Ofgem's absolute approval.
442. Feedback from DA participants suggests that there are several barriers to the delivery of this mechanism, such as the timescales for the DA approval process⁸⁷ and the time taken for bill savings to be awarded⁸⁸. This has presented issues particularly for smaller suppliers.
443. Additionally, a number of applicants have had difficulties in securing an appropriate sample size, given the ECO eligibility requirements for projects. Over 90% of approved DAs are currently targeted at social housing because it is more suitable for obtaining a sufficient sample size and consumer consent for ongoing, potentially intrusive monitoring.
444. To obtain accurate results about the performance of a measure, it is best tested as an individual intervention in a home rather than a package of measures. Given that we are introducing the new MRs, there will be less delivery of single measures, making DA delivery more challenging.
445. The current limits on Technology Readiness Levels (TRL) of products mean that only products that are market ready are able to receive support through the mechanism, which are arguably less in need of support to reach commercialisation through testing.
446. Given the existing problems and additional barriers likely under ECO4, we are gathering views on whether the DA route under a fuel poverty scheme remains an appropriate vehicle to support product testing of single measures, and whether this mechanism should be retained for ECO4. We would also like to gather views on possible alternatives that may be better suited to providing this level of support outside of ECO.
447. Nevertheless, ECO would remain open to innovation and where possible, we intend to work to incorporate successful DA technologies into the scheme if data in the final testing reports support that decision, alongside measure eligibility under wider scheme requirements such as product lifetimes and installation/consumer protection standards.
448. Additionally, as set out below, we intend to further incentivise a reformed pay-for-performance mechanism, which could represent an alternative method to collect data on the energy/cost savings of measures installed through ECO.

⁸⁷ The post-approval process refers to the final clarifications, next steps for the supplier and manufacturer and initial project set-up for working towards measure installation

⁸⁸ The bill savings are awarded after monitoring has completed and DA measures have been notified, which can often be over 12 months after the application is approved.

However, practical issues of monitoring individual measures in isolation would again need to be overcome for this to be a suitable alternative for the DA mechanism.

449. New and innovative measures would also be supported through the scheme through a reformed “data light” alternative methodology approach (see Chapter 4), meaning even new and innovative measures that are not yet recognised in SAP may be eligible.

450. More broadly, Government recognises the need to provide support for new and emerging products across the energy efficiency sector. The new £1 billion Net Zero innovation portfolio is intended to accelerate the commercialisation of innovative low carbon technologies from 2021.

Consultation Question

98.	Given the proposed reforms to ECO4 and the continued focus on providing support to low income, vulnerable and fuel poor householders, should the DA mechanism be retained for ECO4, and be the vehicle used in providing support for single measure product testing? Are there any other mechanisms that may be better suited to product testing?
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Pay-For-Performance

451. In 2018, we introduced the In-Situ Performance (ISP) mechanism to ECO3. This allows suppliers to receive a score based on the monitored performance of a measure. Unfortunately, however, we have seen no uptake of the ISP mechanism by suppliers in ECO3.

452. Anecdotal evidence from suppliers suggests that the lack of participation is due to the mechanism not covering the costs of the monitoring methodologies themselves, meaning the return on investment is too small. It is also difficult to outperform deemed scores in-situ, especially in fuel-poor households, who are likely to be under-heating their homes prior to the installation, and therefore increase their fuel use after installation, also known as “comfort taking”.

Reforming In-Situ Performance

453. Ultimately, we want to move away from deemed scores and schemes that incentivise installers to demonstrate the minimum standard at minimum cost. We want every installation to demonstrably deliver the highest possible energy, bill

and carbon savings alongside a good experience for the consumer. We are not able to achieve that fully at this stage but want to continue a shift in that direction throughout ECO4.

454. We therefore intend to reform the ISP mechanism to take advantage of the expected benefits of pay-for-performance approaches. Various pay-for-performance energy efficiency mechanisms have been successfully deployed internationally with clear benefits.

455. Specific benefits applicable to ECO include:

- incentivising and rewarding higher performing products and installation standards beyond the high bar mandated via PAS;
- opening up the scheme to new measures that are not recognised in SAP and incentivising development of more effective measures;
- reducing the cost and increasing the reliability of monitoring and evidencing processes; and
- raising quality across the supply chain as manufacturers and installers compete in a race to the top to earn the biggest bonuses.

456. BEIS is currently funding and overseeing trials through the smart meter-enabled thermal efficiency ratings (SMETER) programme⁸⁹. SMETER products can measure the thermal efficiency improvements in homes using inputs such as smart meter, weather and in-home data, for example room temperature.

457. A recent workshop⁹⁰ released the main findings of the trials, including very promising results in terms of the accuracy of measurements of the heat transfer coefficient. The workshop also considered further requirements that may be needed for wider implementation, such as a validation or approval mechanism, e.g., a central certification body, to oversee arrangements for accuracy testing and validation. Final results from the trials are expected to be published later in 2021.

458. As the SMETER approach is based on the thermal efficiency rating of homes, it is not compatible with all energy efficiency measures. For example, those with behavioural aspects, such as boilers and heating controls. However, this means that a SMETER-based approach excludes issues associated with fuel poor underconsumption, as energy use does not impact the heat transfer coefficient of the building fabric. As such the SMETER approach may be a suitable option for

⁸⁹ <https://www.gov.uk/guidance/smart-meter-enabled-thermal-efficiency-ratings-smeter-innovation-programme>

⁹⁰ <https://www.ucl.ac.uk/bartlett/energy/news/2021/apr/smeter-workshop-explores-requirements-effective-uk-system-use-thermal-performance>; <https://www.leedsbeckett.ac.uk/blogs/school-of-beec/2021/05/developing-the-smart-meter-requirements-for-an-effective-uk-system/>

assessing the real time performance of fabric measures delivered through the ECO scheme.

459. SMETER approaches are currently being piloted via the Green Home Grants Local Authority Delivery scheme in order to develop, test and demonstrate the effectiveness of SMETER technologies in a live setting. Initial results from these trials are expected in early 2022, with full results due by summer 2022.
460. We recognise that the suitability of SMETER methodologies within any ECO pay-for-performance (PFP) mechanism is dependent on the outcomes of these trials. As such, we do not intend to propose any firm requirements for SMETER technologies to be used within ECO4 at this stage. However, we will consider the results of these trials ahead of our Government response to this consultation.
461. Where there is evidence to support SMETER inclusion, we intend to prescribe which SMETER technologies must be used through the scheme, including the minimum hardware associated with options, e.g., smart meters or smart thermostats, as well as other SMETER monitoring requirements.
462. We have considered an approach that rewards the most effective PFP methodologies used without being prescriptive. However, this approach would require individual assessments of methodologies, which could duplicate the assessment already conducted through the trials while increasing the administration of the PFP mechanism.
463. Besides SMETERs, the Green Finance Institute's Coalition for the Energy Efficiency of Buildings (CEEB) has also been investigating pay-for-performance approaches to energy efficiency, publishing a protocol earlier this year⁹¹. This methodology could accommodate 'comfort taking' by households, and is therefore compatible with more energy efficiency measures than SMETERs, such as heating measures. However, the protocol remains at pre-trial, consultation stage. Where there is evidence to support the inclusion of a PFP methodology developed from this protocol, we would consider this for inclusion in the scheme via new or updated guidance. However ahead of this, we propose to focus any reforms on the use of SMETER methodologies only.

Changes to ISP for ECO4

464. As with the ECO3 ISP mechanism, we propose to make the ECO4 PFP mechanism voluntary and allow suppliers to receive any additional savings monitored via PFP that go beyond that assumed by the overarching SAP ECO4 scores for those measures. However, to adequately incentivise uptake of the

⁹¹ <https://www.greenfinanceinstitute.co.uk/bringing-buildings-energy-measurement-into-the-21st-century-green-finance-institute-puts-forward-new-protocol/>

mechanism, we propose that suppliers would be able to claim the cost of monitoring equipment up to a defined cap per household.

465. In addition, we propose to apply an uplift to all PFP scores to ensure that each PFP project receives additional savings, regardless of the actual savings achieved and monitored. This uplift would be applied to the score for each PFP project.

466. We intend for all Band D, E, F or G homes to be eligible for PFP projects, however any property improved via the PFP mechanism would only count towards the E, F, G minimum where the MRs is also met, i.e. that band F and G properties are improved to D and E properties are improved to C.

467. We do not intend to mandate that these MRs must be met for PFP retrofits to take place, however. Instead, we intend to require that all available insulation measures are installed to ensure these households are improved as far as possible. This should be evidenced via the pre-installation EPC, PAS retrofit design and IOE for each project.

468. Where a PFP home also requires heating measures, such as the repair or replacement of broken efficient boilers and electric storage heaters, we would allow these to be delivered after the PFP measures. This is because the same heating system must be present for the pre and post monitoring to be effective.

469. Where a PFP home also requires heating upgrades, we intend to allow these to be delivered after the PFP monitoring has been completed.

470. We propose to continue to cap PFP projects at no more than 10% of a supplier's obligation, given the reforms intended to increase uptake while piloting new monitoring approaches through the scheme.

471. We also propose to allow any ECO4 uplift to apply to a PFP project. However, innovation measures would only be eligible where the installed IM is also a PFP eligible measure. Where multiple uplifts apply to a PFP retrofit, the same principle as in the wider scheme would apply: uplifts, including the PFP uplift, can only be applied to the non-uplifted score for the property.

472. We intend to provide further detail on our proposed PFP approach via updated BEIS guidance prior to the start of ECO4.

Consultation Question

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| 99. | Do you agree with our proposed approach to a reformed in-situ performance mechanism, including piloting methodologies tested through the SMETER trials? |
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Consultation Questions

A list of all the consultation questions asked in the document can be found below.

List of all Consultation Question

1.	Do you agree with removing the supplier obligation threshold when a buy-out mechanism is introduced and retaining the current thresholds, for when a supplier becomes obligated, in the meantime?
2.	Do you agree with the proposal to reduce the current supplier allowance approach at the start of ECO4, before a buy-out mechanism could be introduced?
3.	How feasible would it be for suppliers to pass on a greater share of obligation costs onto gas prices rather than electricity during ECO4 or beyond?
4.	How feasible would it be for suppliers to recover costs of obligation exclusively from gas customers during ECO4 or beyond?
5.	Do you agree with our proposal of not introducing the new mechanism to protect the ECO target under ECO4 when a supplier ceases to trade, and its obligation target is not met?
6.	Do you agree with the proposal to (a) introduce a buy-out mechanism, to enable smaller suppliers to participate under ECO without disproportionate costs to them (subject to primary legislation); and (b) do you agree that the use of buy-out should be optional for all suppliers?
7.	Do you agree that the buy-out pot should be used to deliver energy efficiency measures?
8.	Do you agree that all suppliers should be able to use the buy-out mechanism using a sliding scale approach?
9.	If a sliding scale was used, do you agree that the proposed potential buy-out caps above are set at the right level?
10.	Do you think that very small suppliers with (a) 1,000 customer accounts or below, regardless of their supply volumes, should not be obligated (option 1 in table 4); OR (b) do you think suppliers with less than 5,000 customer accounts, with supply volumes of 66GWh gas and 18 GWh electricity should not be obligated (Option 2 in table 4)?
11.	Do you agree that (a) an approach using published prices reported by suppliers on ECO delivery and administration costs would be appropriate to set the buy-out price on an annual basis ahead of the buy-out 'window'? (b) Please suggest any alternative approaches.

12.	Do you agree that suppliers should decide on whether to buy-out or not during a 'decision window' which is prior to the start of the next obligation phase?
13.	Do you agree that suppliers can only choose to buy-out their next obligation phase?
14.	Do you agree with our proposal to allow up to 10% ECO3 delivery to be carried over into the ECO4 scheme (with the exception of oil and LPG fuelled heating systems)?
15.	Do you agree with our methodology for converting ECO3 bill savings into ECO4 bill savings?
16.	Should the ECO3 average cost per £ of lifetime bill savings be taken from the ECO3 Impact Assessment or the published energy efficiency statistics? Please explain your answer.
17.	Is carry-under needed to mitigate the risk of suppliers failing to meet their ECO3 obligations?
18.	Do you agree with the proposed cap of 10% and penalty rate of a 1.1 multiplier if carry-under is implemented?
19.	If carry-under is implemented, do you agree with our proposal for the ECO3 average cost per £ of lifetime bill savings to be 31p, taken from the ECO3 Impact Assessment?
20.	Do you agree with our proposal for early delivery during any potential gap between schemes?
21.	Do you agree that ECO should target SAP band D, E, F and G homes?
22.	Do you agree that band F and G homes should be improved to at least a SAP band D, and that band D and E homes should be improved to at least a SAP band C, as a minimum requirement to receive a full project score?
23.	Do you agree to a requirement for a minimum number of private tenure homes in SAP band E, F and G homes to be upgraded?
24.	Do you agree with the proposal to (a) remove non means tested benefits including disability benefits as a method to target low income and vulnerable households, as listed in table 6?; and (b) include additional benefits within the eligibility criteria for private tenure households under ECO4 to align with UC?
25.	Do you agree with the proposals to increase the Child Benefit income caps as set out in table 7 under ECO4?
26.	Do you agree with the proposal that households in receipt of WHD also be eligible under ECO4, if they live in band D-G homes?
27.	Do you agree that up to 50% of the ECO target could be delivered through LA & Supplier Flex?
28.	Do you agree with the proposals for improved due diligence under the reformed LA & Supplier Flex?

29.	Do you agree with the four referral routes that could be used by local authorities under LA & Supplier Flex? Are there other ways we could incentivise better targeting?
30.	Do you agree that obligated energy suppliers should (a) be able to use their own data on households in fuel debt, or PPM self-disconnections to target low income and vulnerable householders; and (b) households would be eligible if they meet the 2-proxy requirements, using suppliers own customer debt or PPM self-disconnections data under LA & Supplier Flex route 2?
31.	Do you think the Scottish and Welsh Governments should be able to refer households under LA & Supplier Flex, instead of local authorities in those countries?
32.	Do you agree that off-gas uplifts of (a) 35% should be applied to Scotland and Wales; and (b) not applied in England, where the Home Upgrade Grant is available?
33.	Do you agree if a measure is funded under ECO, then other grant funded schemes should be prohibited from blending with the same measure under ECO?
34.	Do you agree homes could benefit from multiple funding if (a) it is not for the same measure; and (b) if other grant funded measures are installed either before ECO4 or after all the ECO4 measures?
35.	Do you agree that we continue with the ECO Eligible Referrals mechanism under ECO4?
36.	Do you agree with our proposals to (a) simplify the in-fill mechanism with the new ratios for flats and other housing to qualify?; and (b) include CWI in-fill?
37.	Do you agree with our proposal to (a) support low income private rental households, with the design being subject to the outcome of the PRS consultation; and (b) limit support to packages of measures that meet the MR including solid wall insulation, first-time central heating, a renewable heating system or district heating?
38.	Do you agree with the proposal to (a) allow social housing tenure with starting bands of E, F and G to be eligible under ECO4; and (b) continue eligibility for band D social housing under Innovation Measures?
39.	Do you agree that the minimum requirements should apply to E, F and G social housing and band D social housing for IM uplifts?
40.	Do you agree that the scope of the Home Heating Cost Reduction Obligation (HHCRO) should be broadened to a Home Energy Cost Reduction Obligation?
41.	Do you agree with our proposal to maintain a Solid Wall Minimum Requirement set at 22,000 solid wall insulation measures per year for ECO4 and remove the option for this to be met via alternative measures?
42.	Do you agree with our proposal to introduce the proposed minimum insulation preconditions for all homes receiving heating measures?
43.	Do you agree with our proposal to exclude the repair and replacement of oil and LPG boilers?

44.	Do you agree with our proposal to only allow the repair of efficient heating up to a cap of 5,000 homes per year?
45.	Do you agree with our proposal to reduce the Broken Heating Cap for broken efficient heating replacements up to 5,000 homes per year?
46.	Do you agree with our proposal that all new ESH delivered (both on and off-gas) must have a SAP responsiveness of 0.8 or above?
47.	Do you agree with our proposal to require all new gas boilers installed throughout GB to meet the Boiler Plus standards?
48.	Do you agree with our proposal to restrict first-time gas central heating to households already connected to the gas grid?
49.	Do you agree with our proposal for all new wet central heating systems to be installed as a “low-temperature heating system”?
50.	Do you agree with our proposals to expand the eligibility for first-time central heating?
51.	Do you agree with our proposal to restrict biomass boilers or district heating systems to off-gas grid homes that are not electrically heated and cannot reasonably or practicably receive a hydronic heat pump?
52.	Do you agree with our proposal to restrict the installation of electric heating (that is, or equivalent to, a high heat retention electric storage heater) to homes that are already electrically heated and where it is not reasonable or practicable to install a hydronic heat pump, district heating system or a solid biomass heating system?
53.	Do you agree with our proposal that energy suppliers should be required to provide advice on the benefits of smart meters and how to request the installation of a smart meter alongside the energy advice requirements required by PAS 2035?
54.	How should suppliers be required to demonstrate that a flexible heating system is safe, secure, smart-enabled and installed with sufficient energy storage, and in a way that means the heating system will operate flexibly?
55.	Do you agree that the ECO4 scoring methodology must be based on the difference in average annual bill expenditure between the starting SAP rating and finishing SAP rating of a property, with regard given to the property’s floor area?
56.	Do you agree that the overarching ECO4 scores should be based on deemed savings, rather than the actual savings generated through bespoke SAP calculations at each property?
57.	Do you agree with our proposed approach for allowing exemptions to the minimum requirements? If you propose additional exemptions, please suggest how they could be evidenced.
58.	Do you agree with our proposal to use deflated partial project scores for ongoing projects, ahead of completion?
59.	Do you agree with our proposal to use deflated partial project scores where a project is found to be non-compliant with the minimum requirement at the point of notification?

60.	Do you agree with our proposal to use deflated partial project scores where a consumer ends a project before the minimum requirement has been met for reasons other than change of occupancy?
61.	Do you agree with our proposal to cap the share of a supplier's ECO obligation that can be comprised of scores from partial projects? Do you agree that this cap should be set between 20-30%?
62.	Do you agree with our proposal to use deflated partial project scores for in-fill homes, with a deflation of between 20% and 30%?
63.	Do you agree with our proposal to incentivise the use of longer lifetime measures through minimum requirements and heating insulation preconditions rather than including measure lifetimes in ECO4 scores?
64.	Do you agree that we should continue to require measure lifetimes through the scheme to benchmark guarantee requirements and for scheme reporting purposes outside of the scoring framework?
65.	Do you agree with our methodology for applying innovation uplifts relative to the expected savings of a particular innovation measure type?
66.	Do you agree with our proposal to provide a fixed score uplift of ~£60 annual bill savings for all broken boiler replacements and ~£16 annual bill savings for each broken ESH replacement? Please provide information on the cost of boiler and ESH repairs to help inform the level of uplift required for heating repairs relative to replacements.
67.	Do you agree with our proposal to allow uplifts for hard-to-treat issues for owner-occupied E, F, and G homes only?
68.	Do you agree with our proposed methodology for hard-to-treat uplifts? Please also suggest forms of evidencing for hard-to-treat.
69.	What work should be within scope of the HTT uplift? Should the extraction of defective loft and/or cavity wall insulation be included? If not, how could extraction be monitored more effectively through the scheme?
70.	Should the cost per £ bill savings be based on the final ECO4 IA or from ECO4 published energy efficiency statistics?
71.	Do you agree with our approach for evidencing scores for ECO4?
72.	Do you agree with our proposal to allow alternative methodology scores to be produced for measures that are not recognised in SAP?
73.	Do you agree with our proposal for all alternative methodology scores to count towards the minimum requirement?
74.	Solid wall insulation: (a) Do you agree with our assumption of a 0% third party contribution for solid wall insulation (SWI)? (b) Please provide BEIS with any information on third party contributions towards SWI supporting your response.
75.	PAS2035:2019: (a) Are the current cost assumptions for ventilation outlined in Table 12 reflective of the costs of complying with ventilation requirements set out in PAS 2035?

	(b) Please provide BEIS with any information on the cost ranges associated with PAS ventilation compliance, and any further PAS related considerations, that may be applicable.
76.	<p>Ancillary work: (a) Should the costs of delivering specific ancillary services related to insulation, be captured through the delivery cost assumptions in the ECO4 final stage Impact Assessment?</p> <p>(b) Please provide BEIS with any information on the cost ranges associated with each ancillary measure in paragraph 354, and any further common services that may be applicable.</p>
77.	<p>Data Warehouse and Hard-to-treat: (a) How feasible would it be for all delivery costs incurred as a result of the installation of measures to be lodged and stored within TrustMark's Data Warehouse, and how do you think all measures costs should be recorded, e.g., to ensure any gaming risks are mitigated where possible?</p> <p>(b) Please provide BEIS with any further evidence of the costs associated with remediation of hard-to-treat issues, as required in 8.3.1, bullet three, of PAS 2035,⁹² as well as evidence of the prevalence of these issues in the housing stock.</p>
78.	<p>In the event that separate rules are made for ECO in Scotland, do you agree with the proposal to:</p> <p>(a) apportion the cost envelope between England & Wales and Scotland using a methodology based on the total amount of gas and electricity supplied in each region, with an equal weighting for each fuel?</p> <p>(b) that the calculation is based on an average taken from the last three years of domestic gas and electricity consumption data published annually in December by BEIS?</p>
79.	In the event that separate rules are made for ECO in Scotland, do you agree with the proposal to apportion an individual supplier's targets between Scotland and the rest of GB?
80.	Do you agree with setting a project completion time of three months, from the completion of the first measure in any package other than for DHS? We welcome views regarding what timescale should be permitted for DHS installations.
81.	Do you agree with our proposal to allow an extension of three months to be permitted by Ofgem in certain circumstances?

⁹² 8.3.1, bullet three, states that parties must identify the "location and severity of any existing construction defects or structural defects or leaks, and of any condensation and/or mould growth in the dwelling".

82.	Do you agree with our proposal to award deflated partial project scores for measures delivered after the three-month time period has passed?
83.	Do you agree with the proposals on measure notifications and extensions?
84.	Do you agree with (a) the proposed obligation phases for the future scheme; and (b) the proposal to retain the 1 February deadline for suppliers to notify Ofgem, and for suppliers to be notified of their obligation on or before 7 March, prior to the commencement of the next phase?
85.	Do you agree with the proposal to retain the mechanism for the trading of obligations and setting the deadline for applications as 30 September 2025?
86.	Do you agree with the proposal to retain the mechanism for the transfer of qualifying actions and setting the deadline for applications as 30 June 2026?
87.	Do you agree that an application for the transfer of qualifying actions should not be approved, if there is significant risk that the applicant supplier would be unable to deliver its obligation?
88.	What actions do you consider appropriate to reduce the level of technical monitoring (TM) fails for loft insulation?
89.	Should the guarantee durations for loft insulation and boilers be increased and to what duration?
90.	What should be required for heating repair guarantee scope and length to ensure that these measures can be delivered through the scheme with appropriate consumer protection?
91.	If appropriate safeguards are put in place to prevent ECO guarantee requirements being changed without sufficient consultation with BEIS and wider industry, should all ECO guarantee requirements be mandated via TrustMark registration and compliance, rather than through ECO regulations?
92.	Do you agree that all measures (excluding DHS) referenced in the latest versions of PAS2035 and PAS2030 should be installed in accordance with these standards and delivered by a PAS-certified installer?
93.	Should this requirement be enforced entirely via TrustMark registration and compliance, and therefore not referenced in ECO legislation for ECO4?
94.	Do you agree with our proposal to retain the Innovation Measure mechanism, which would be capped at 10% of a supplier's obligation?
95.	Do you agree with our proposal to introduce a 'High' level of uplift of 45%, alongside the current 'Standard' 25%, based on a distinction between a moderate improvement and substantial improvement, decided upon by the TAP?

96.	Do you agree with our proposal to expand on the current criteria for determining whether there is an improvement to include environmental impact consumer care, and delivery costs?
97.	Do you agree with our proposal to reward sponsoring suppliers with an increased uplift of 2% after application approval?
98.	Given the proposed reforms to ECO4 and the continued focus on providing support to low income, vulnerable and fuel poor householders, should the DA mechanism be retained for ECO4, and be the vehicle used in providing support for single measure product testing? Are there any other mechanisms that may be better suited to product testing?
99.	Do you agree with our proposed approach to a reformed in-situ performance mechanism, including piloting methodologies tested through the SMETER trials?

This consultation is available from: www.gov.uk/government/consultations/design-of-the-energy-company-obligation-eco4-2022-2026

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